

Facultative Lagoon Effluent Polishing  
Using Phase Isolation Ponds

Environmental Protection Systems, Inc.  
Jackson, MS

Prepared for

Municipal Environmental Research Lab.  
Cincinnati, OH

May 81



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FACULTATIVE LAGOON EFFLUENT POLISHING

USING PHASE ISOLATION PONDS

by

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Grant No. R-805296

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FOREWORD

The Environmental Protection Agency was created because of increasing public and government concern about the dangers of pollution to the health and welfare of the American people. The complexity of the environment and the interplay between its components require a concentrated and integrated attack on the problem.

Research and development is that necessary first step in problem solution and it involves defining the problem, measuring its impact, and searching for solutions. The Municipal Environmental Research Laboratory develops new and improved technology and systems for the prevention, treatment, and management of wastewater and solid and hazardous waste pollution discharges from municipal and community sources, for the preservation and treatment of public drinking water supplies, and to minimize the adverse economic, social, health, and aesthetic effects of pollution. This publication is one of the products of that research; a most vital communications link between the researcher and the user community.

As part of these activities, this report was prepared to make available to the sanitary engineering community the results of a one year test of "Phase Isolation" ponds as a means of upgrading facultative lagoon systems.

Francis T. Mayo  
Director  
Municipal Environmental Research Laboratory

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ABSTRACT

An investigation into the performance of "Phase Isolation" as a means of upgrading facultative lagoons was conducted at Clinton, Mississippi. The study system consisted of two (2) facultative lagoons arranged in series followed by two (2) isolation ponds used alternately for final polishing. The isolation ponds were operated on a fill and draw basis with isolation periods varying from 20 to 44 days. The object of this study was to monitor the "Phase Isolation" process and to evaluate its potential for upgrading facultative lagoons. The study was conducted from May, 1978, to May, 1979.

The study indicated that phase isolation would not consistently meet the NPDES limitations of 15 mg/l-BOD<sub>5</sub>, 30 mg/l-TSS and 5 mg/l-TKN-N established for the city of Clinton. However, the isolation process did demonstrate its ability to produce an average effluent as follows: Pond 1 - 11 mg/l-BOD<sub>5</sub>, 39 mg/l-TSS, and 3.7 mg/l-TKN-N and Pond 2 - 13 mg/l-BOD<sub>5</sub>, 36 mg/l-TSS, and 3.9 mg/l-TKN-N.

This report was submitted in fulfillment of Grant No. R-805296 by Environmental Protection Systems, Inc., subcontractor to the city of Clinton, Mississippi, under the sponsorship of the U. S. Environmental Protection Agency. This report covers the period September 12, 1977, to March 11, 1980, and the work was completed as of May, 1979.

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LIST OF ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS

|                    |                                      |
|--------------------|--------------------------------------|
| BOD <sub>5</sub>   | --five day biochemical oxygen demand |
| COD                | --chemical oxygen demand             |
| CaCO <sub>3</sub>  | --calcium carbonate                  |
| DO                 | --dissolved oxygen                   |
| ft                 | --feet                               |
| ft-cd              | --foot candles                       |
| ha                 | --hectare                            |
| kg                 | --kilogram                           |
| m                  | --meter                              |
| kg/ha/day          | --kilogram per hectare per day       |
| mg/l               | --milligram per liter                |
| ml                 | --milliliter                         |
| mm                 | --millimeters                        |
| TKN-N              | --total kjeldahl nitrogen            |
| NH <sub>3</sub> -N | --ammonia nitrogen                   |
| NO <sub>3</sub> -N | --nitrate nitrogen                   |
| NO <sub>2</sub> -N | --nitrite nitrogen                   |
| Ortho-P            | --orthophosphate phosphorus          |
| Temp               | --temperature                        |
| TOC                | --total organic carbon               |
| Total P            | --total phosphorus                   |
| TSS                | --total suspended solids             |
| TVSS               | --total volatile suspended solids    |

SYMBOLS

|    |                      |
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| °C | --degrees centigrade |
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## ACKNOWLEDGMENTS

An expression of sincere gratitude is extended to Mr. Cliff Landrum, city engineer, and staff from the city of Clinton, Mississippi. The co-operation and assistance provided by Mayor Charles Blass and the city of Clinton, Mississippi, which made this study possible is greatly appreciated. A special thank you is extended to Ms. Lois Kirkland, project manager, for her assistance during the project period. Also, thank you is extended to Ms. Teresa Lacy for her assistance in the preparation of this report. Thank you is also extended to Dr. Ronald Lewis, EPA project officer, who provided useful suggestions during the project period.

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SECTION 1

INTRODUCTION

GENERAL HISTORY

Since the passage of the Federal Water Pollution Control Act (PL 92-500) in 1972, most cities and communities have been required to upgrade their existing treatment systems. A number of communities have opted to use facultative lagoon systems to meet the secondary standards; however, for the most part it has been the small community whose economics dictate this type of treatment.

Notably, with the promulgation of secondary treatment standards for municipal installations by the U. S. EPA a number of existing municipal lagoon systems will not be able to comply. The regulations state that the effluent BOD<sub>5</sub> and suspended solids should not exceed an arithmetic mean value of 30 mg/l on samples collected in a period of 30 consecutive days. A final amendment to the secondary treatment regulation allows a case-by-case adjustment in suspended solids limitations for publicly owned waste stabilization ponds if the following applies: the pond has a design capacity of 2 million gallons per day or less; ponds are the sole process for secondary treatment; and the pond meets the biochemical oxygen demand limitations.

In an effort to assist the small community in complying with the PL 92-500 standard for secondary treatment, a number of researchers have investigated various concepts for upgrading the basic lagoon system. One such concept termed "Phase Isolation" by its originators in Woodland, California, was reported to enhance existing lagoons by isolating the effluent prior to discharge (1). The system consisted of conventional facultative ponds in series with a final isolation pond which was operated on a fill and drain basis. The isolation pond was capable of producing a relatively solids free upper water strata, which when discharged would meet secondary standards.

Because of the simplicity of "Phase Isolation" demonstrated in California, the U. S. Environmental Protection Agency, Cincinnati, Ohio, selected Clinton, Mississippi, for a demonstration project to provide evaluation of the isolation concept in a different geographical location. The city of Clinton has been issued the following NPDES limitations based upon a monthly average: BOD<sub>5</sub>-15 mg/l, Suspended Solids-30 mg/l, Total Kjeldahl Nitrogen-5 mg/l, and Fecal Coliform-200/100 ml.

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PROJECT SCOPE AND OBJECTIVES

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The study was designed to evaluate the "Phase Isolation" process on a seasonal basis and to determine its applicability in meeting local as well as national standards. Two existing facultative ponds arranged in series were selected for evaluation and were connected to two isolation cells for this study. Effluent from the series facultative ponds was discharged to either of the isolation ponds on an alternate basis for final treatment. Because of budget and pond configuration constraints, a single isolation pond depth was maintained throughout each isolation pond. The effluent was isolated from 20 to 44 days prior to being discharged depending upon the in situ water quality. At the end of each isolation cycle, the pond upper strata was discharged and evaluated for effluent quality.

In order to evaluate the "Phase Isolation" process the following specific objectives were outlined:

1. To monitor biological, chemical, and physical parameters during each isolation cycle and during final drawdown.
2. To answer the following operational and performance question:
  - a. Will the isolation process produce an effluent that consistently meets Clinton's NPDES limitations and the national EPA secondary standards?

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SECTION 2

CONCLUSIONS

The following conclusions are based upon the data collected and observations made during the study period.

1. The phase isolation process as evaluated at Clinton, Mississippi, will not consistently meet the EPA NPDES limitations of 30 mg/l TSS and 15 mg/l BOD<sub>5</sub> or the EPA 30/30 secondary standards. Notably the process did, at times, produce an effluent that was of good quality; however, as demonstrated during this study the process should not be considered as a final process unit.
2. Specifically, pond number 1 produced an effluent which met the limitations 4 out of 8 discharge cycles for TSS and 7 out of 8 discharge cycles for BOD<sub>5</sub> and TKN. Pond number 2 performed within limitations 2 out of 8 discharge cycles for TSS, 4 out of 8 for BOD<sub>5</sub>, and 8 out of 8 for TKN. Notably, both ponds maintained compliance throughout the study for dissolved oxygen, fecal coliform, and pH.
3. A regression equation ( $r=0.935$ ) was developed which provides a reasonable estimate of the effluent suspended solids as a function of in situ secchi depth, TSS, BOD<sub>5</sub>, COD, TOC, organic nitrogen, ammonia nitrogen, nitrite and nitrate nitrogen and total phosphorus.
4. A correlation matrix of process parameters demonstrated a relationship between the effluent suspended solids and in situ total suspended solids and secchi depth, indicating the use of these parameters to determine the isolation period end point.
5. A positive correlation ( $r=0.60$ ) was established between measured rainfall and effluent BOD<sub>5</sub> and TSS. This relationship along with visual observations demonstrated the sensitivity of the isolation process to wind and rainfall conditions.
6. Microscopic examinations revealed the algal form of Chlorella to appear most frequently with Oscillatoria, Ankistrodesmus, Pediastrum, and Ulothrix appearing to a lesser degree.

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### SECTION 3

#### RECOMMENDATIONS

Recommendations relating to performance enhancement of the pond isolation concept are presented as follows:

1. Investigate the pond isolation concept utilizing ponds with greater organic loadings and depth, less surface area, multiple outlets, and pump control of fill and draw.
2. Investigate pond isolation in coordination with timed discharges during high stream stages only.
3. Investigate in situ chemical application to enhance algal flocculation.

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SECTION 4

RELATED STUDIES

In 1974, the city of Woodland, California, initiated studies involving the operation of a municipal lagoon system on an experimental basis (1). The operation entailed holding facultative pond effluent in a final holding pond 10 to 20 days until the quality of the upper water strata was acceptable for discharge. The process was termed "Phase Isolation" by the originator at Woodland.

The city's existing treatment system consists of total oxidation ponding utilizing facultative type ponds. Facing the secondary standards as established by EPA, Woodland evaluated various ponding schemes until discovering the concept of phase isolation. The city's engineering department constructed three small pilot ponds lined with plastic sheeting to minimize exfiltration. These ponds were filled with treated facultative pond effluent and allowed to stand in isolation.

The suspended solids and BOD<sub>5</sub> decreased daily and within three weeks the ponds were well below the 30/30 mg/l standard. Based upon these and subsequent study results, the engineering department experimented with the concept using a 4.86 hectare pond for final isolation. Treated effluent from three adjacent facultative ponds was discharged into the isolation pond where it was retained for treatment. The effluent used to fill the pond had a BOD<sub>5</sub> of 42 mg/l and suspended solids of 110 mg/l. After two weeks of total isolation, the BOD<sub>5</sub> had dropped to 28 mg/l and the suspended solids to 30 mg/l.

After approximately one year of operation the process had produced a BOD<sub>5</sub> consistently in the range of 4 mg/l or less, giving a total reduction of 97 percent. The total suspended solids data averaged 12 mg/l with a reduction of 90 percent.

Further investigation of the Woodland, California, project was conducted by Koopman; et al (2) at the University of California, Berkeley, California. Although the California study was conducted concurrently with the project presented herein, the final reported conclusions will be incorporated in this section. The California project renamed the process "Pond Isolation" to avoid confusion with another proposed micro-algae treatment process. The project was scheduled for investigation on 7 February, 1977, to 6 February 1978.

In summary, the pond isolation process monitored at Woodland failed to meet the suspended solids standards of 30 mg/l in ten out of sixteen

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**cycles studies. A major contributing factor appeared to be wind disturbances resuspending sediments. However, the BOD<sub>5</sub> removal was effective and produced an effluent where discharges did not exceed 15 mg/l in any of ten cycles monitored. In addition, total nitrogen removal averaged 45 percent compared to the facultative pond effluent.**

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SECTION 5

METHOD OF STUDY

DESCRIPTION OF STUDY SYSTEM

Clinton is a community of 15,500 people located about 10 miles west of Jackson, Mississippi, and about 35 miles east of the Mississippi River. Clinton's climate is significantly humid during most of the year, with a relatively short cold season and a rather long warm season. The proximity of the Gulf of Mexico, about 150 miles south, and the prevalence of the southerly winds amount to a maritime characteristic during the warm season.

The city of Clinton, Mississippi, currently uses four (4) separate facultative lagoons and one (1) mechanical treatment plant to treat approximately 18,248 m<sup>3</sup>/day of domestic wastewater. The existing treatment units are located at various natural collection points throughout the city. Clinton has one industrial park which provides treatment of its wastewater and is totally separate from the municipal system. Except for a number of typical commercial users, the municipal system handles domestic wastewater.

The southwest facultative lagoon system was selected as the study site because of its convenient configuration. Figure 1 illustrates the study system which consists of two ponds in series and two isolation ponds. Tables 1 and 2 present the average analyses of domestic wastewater and raw sewage loading rates for the southwest lagoon system. The configuration with ponds 3 and 4 in series is the arrangement used to handle the city's wastewater. Ponds 1 and 2 were constructed for future expansion and have not been used prior to this study. To accommodate the "Phase Isolation" study, the system was modified in order to divert the effluent from the ponds 3 and 4 into isolation ponds. The effluent from pond 4 was directed into either cell 1 or 2 on an alternate basis where it was held from 20 to 44 days.

The isolation ponds were separated from the facultative ponds by typical earthen dikes. A positive control valving system was installed to divert effluent to either isolation pond as required by the study. The facultative effluent to the isolation ponds was introduced near the center of each pond. Each isolation pond was equipped with a typical control structure which was adjusted according to the drawdown requirements. Once the drawdown level was reached, the discharge valve was shut off and the fill cycle was initiated.

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POND OPERATION AND CONTROL

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Initially the two isolation ponds were drained and filled alternately to begin the study. Pond 1, which was filled first, initiated the isolation cycle on May 24, 1978. Pond 2 was started on June 21, 1978. The isolation cycles, corresponding dates and rainfall data are presented in Table 3.

In situ monitoring was conducted throughout the isolation period to determine quality suitable for discharge. At the end of the isolation period, the upper water strata was discharged by gravity through the effluent structure. The average fill and drawdown for ponds 1 and 2 was 0.40 and 0.37 meters, respectively. The average fill period lasted 16 days and the average drawdown period lasted 7 days with an average volumetric flow of 511 and 1136 m<sup>3</sup>/day.

At the end of the drawdown period, the ponds were filled to the original level, replacing the discharged volume. Ponds 1 and 2 had a surface area and isolation depth of 2.03 ha and 1.8 meters and 1.96 ha and 1.8 meters respectively.

SAMPLING PROTOCOL

The major goal of the sampling program was to monitor the in situ quality during the isolation cycle and the effluent quality during final discharge. A number of parameters were selected as listed below: total and volatile suspended solids, dissolved oxygen, pH, alkalinity, BOD<sub>5</sub>, COD, TOC, nitrogen-organic, ammonia, nitrate, and nitrite, phosphorus-total and ortho, and fecal coliform. In addition to these analyses, other measurements were made which included water depth, secchi depth, light intensity and precipitation. Microscopic analyses were conducted at selected intervals for the identification of phytoplankton.

Initially, the sampling program consisted of in situ monitoring twice per week at selected stations within each isolation pond as shown in Figure 1. Because of the large surface area for each pond, three sampling stations were established within each pond. After three isolation cycles, only sampling station S-2, located at the geometric center of each pond, was monitored for in situ quality. On monitoring days, grab samples were collected at 0.305 meters below the water surface using a 3 liter Alpha style-horizontal sampling bottle manufactured by Wildco, Saginaw, Michigan. Depth profiles of dissolved oxygen and temperature were measured at 0.305 meter intervals. Secchi depth measurements were conducted as a measure of light penetration. Measurements were made by lowering a 500 millimeter diameter white secchi dish to the depth where it just disappears from view. In addition, light intensity was measured using a General Electric type 214 light meter color and cosine corrected. A standard United States weather bureau type rain gage was mounted on site and was used to collect rainfall data.

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Effluent monitoring was conducted during the drawdown period by collecting 24-hour composite samples for each discharge day. An automatic composite sampling unit was installed at each effluent structure for use during the drawdown period. The effluent was analyzed for the following selected parameters: BOD<sub>5</sub>, TSS, TVSS, TKN-N, DO, pH, and fecal coliform. The fecal coliform analysis was performed on a grab sample collected daily.

## ANALYTICAL METHODOLOGY

All analyses conducted during the course of this study were in accordance with Standard Methods (3). The specific procedures employed for each analysis are shown in Table 4.

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SECTION 6

DISCUSSION OF RESULTS

ISOLATION POND PERFORMANCE

Initially both isolation ponds were filled with facultative pond effluent to an operating study depth of approximately 1.83 meters. A single operational depth of 1.83 meters was selected for this study because of physical and economic constraints. Pond 1 was filled first and began the isolation period on May 24, 1978, whereas Pond 2 was started on June 21, 1978. Subsequent isolation cycles were operated by fill and drawdown control. At the beginning of each isolation cycle the ponds were filled with an incremental volume of facultative pond effluent equal to the previous drawdown in order to maintain a study depth of 1.83 meters. The isolation period began when the study pond reached the operating depth and was terminated on the day of drawdown. Isolation pond influent data are presented in Tables 5 and 6 for ponds 1 and 2 respectively. On an average concentration basis, isolation ponds 1 and 2 received 42 mg/l BOD<sub>5</sub>, 61 mg/l TSS, 17.6 mg/l TKN, and 54 mg/l BOD<sub>5</sub>, 57 mg/l TSS, and 17.6 mg/l TKN, respectively.

In an effort to evaluate the performance of the study system, a broad list of parameters, both total and soluble forms, was utilized. The key parameters used to evaluate the period of isolation were BOD<sub>5</sub>, TSS and TKN. The facultative pond effluent was held in isolation until one or more of the following decision points occurred: (1) the water column concentration of TSS and BOD<sub>5</sub> decreased to a level below 30 mg/l and 15 mg/l respectively, (2) the minimal level of TSS and BOD<sub>5</sub> was attained and these parameters appeared to be on the increase, or (3) the facultative ponds attained the maximum operational capacity. Except for the initial isolation period for each pond, this protocol was followed. In most cases, once it appeared that a minimal level had been attained the effluent was held for a few more days to establish the stability of the water column quality. Using these criteria as decision points during the study, the isolation cycles were varied from 20 to 44 days. The isolation cycle was measured from the end of one fill to the beginning of the drawdown.

Each isolation cycle or holding pond varied in duration depending upon evaluation in situ quality. During the study period, there were 8 and 7 cycles evaluated for ponds 1 and 2 respectively.

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In and effort to simplify discussion of the isolation cycles and water quality selected, parameters have been evaluated for a response

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trend. The resulting evaluation is shown in Table 7 as a simplified trend chart representing variations in in situ quality during isolation. The selected quality parameters for trend evaluations were BOD<sub>5</sub>, COD, TSS, and TKN.

In reference to Table 7, the overall quality trend during isolation for pond 1 was of a decreasing nature. However, isolation cycle 3 showed an increase in BOD<sub>5</sub> and COD, a decrease in TSS, and no significant change in TSS. The BOD<sub>5</sub> showed no change in cycle 4 while the TKN increased. In cycle 5 the BOD<sub>5</sub> and TKN showed no change, while the COD and TSS increased. Again in cycle 6, the TSS and TKN increased through the isolation period.

A review of the data for pond 2 as presented in Table 7 indicates a variable performance throughout the study period with only the TKN showing a decreasing trend. Overall pond 2 did not perform with any discernable consistency.

The in situ trends for BOD<sub>5</sub> and TSS for each isolation cycle and each pond are presented in Figures 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16. It is apparent from these data that the isolation process produces a definite decrease in in situ TSS and BOD<sub>5</sub>. In pond 1, 6 out of 8 isolation cycles demonstrated a decreasing trend in TSS and BOD<sub>5</sub> relative to initial water column concentrations. Isolation cycles 5 and 6 for pond 1 and isolation cycles 3 and 5 for pond 2 showed increases in TSS and BOD<sub>5</sub>. Notably, isolation cycles 5 and 6 for both ponds were influenced by heavy rainfall during the months of January and February. Rainfall data are presented in Table 3. Isolation cycle 3 for pond 2 experienced an algal bloom with Oscillatoria being the dominant algae. Statistical analyses revealed a significant correlation ( $r=0.60$ ) at the 5 percent level between measured rainfall and effluent BOD<sub>5</sub> and TSS. Visual observations and statistical analyses indicate the sensitivity of the isolation pond operation to wind and rainfall conditions.

In addition to the selected key parameters BOD<sub>5</sub>, TSS, and TKN used to evaluate the period of isolation, a number of other analyses were conducted. Specifically, the following measurements were performed: Total and Soluble BOD<sub>5</sub>, COD, TOC; Nitrogen, Organic, Ammonia, Nitrite and Nitrate, Total and Volatile Suspended Solids, Dissolved Oxygen and Temperature profiles, Secchi Depth, pH, Alkalinity, Fecal Coliform, and Light intensity.

Applied multiple regression analysis was performed on the study data to uncover fundamental process control relationships. A statistical program outlined by Draper and Smith (4) adapted to a Hewlett Packard 9825 desk top computer was used to process the data. The program regresses independent variables on a responsive variable and produces the coefficients of the fitted equation, the multiple correlation coefficient, and the correlation matrix.

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The only significant relationship found by this analysis was between the final isolation day in situ quality parameters and the effluent suspended solids. Regression analyses generated the following equation with a multiple correlation coefficient of 0.935: Effluent Total Suspended

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Solids =  $-0.530 - 41.977(\text{Secchi depth}) + 0.986(\text{Total Suspended Solids}) - 0.535$   
(Biochemical Oxygen Demand-5Day)  $- 0.225(\text{Chemical Oxygen Demand}) + 0.318(\text{Total}$   
Organic Carbon)  $- 4.641(\text{Organic Nitrogen}) + 44.897(\text{Ammonia Nitrogen}) - 274.13$   
(Nitrite Nitrogen)  $+ 57.300(\text{Nitrate Nitrogen}) + 8.143(\text{Total Phosphorus})$ . The  
correlation matrix for these data is presented in Table 8 with positive  
or negative correlations at the 10 percent level of significance. This  
matrix of intercorrelations shows the meaningful relationship between per-  
formance parameters. The correlation analyses was performed on 11 vari-  
ables and 15 data sets.

The regression equation provides a reasonable estimate of effluent  
suspended solids based upon in situ quality parameters. This allows the  
operator a decision tool to be used in terminating the isolation period.  
Long term verification of this prediction tool is required to determine  
its operational reliability. However, the model does indicate which  
parameters should be considered in evaluating the isolation period end  
point. In addition, the correlation matrix shows relationships between  
the effluent suspended solids and in situ secchi depth, suspended solids,  
nitrate nitrogen and total phosphorus. Based upon these correlations,  
the in situ total suspended solids and the secchi depth could be used to  
determine the isolation period end point.

Microscopic analyses were conducted to determine the algal types  
present on the final isolation day. Table 9 presents in situ algal con-  
centrations for each pond as evaluated on the final day of isolation. A  
simple correlation analysis was conducted between the total algal counts  
and the effluent total suspended solids for each pond, resulting in an  
significant correlation at the 5 percent level. Dominant algal types for  
pond 1 on the final isolation day consisted of Chlorella, Pediastrum,  
Scenedesmus, and Ulothrix. Dominant algal types for pond 2 were identified  
as Ankistrodesmus, Chlorella, Oscillatoria, and Ulothrix. In both ponds  
an algal regrowth was noted after minimal concentrations were reached  
during certain isolation cycles.

In addition to the basic analyses, fluid measurements were conducted  
to define the conditions of mixing experienced by both ponds. The field  
dissolved oxygen and temperature profile data indicated both ponds to be  
thermally stratified and to possess vertical dissolved oxygen gradients.  
These data demonstrated that the ponds were not well mixed during the  
study period.

At the completion of each isolation cycle, the ponds were drawn down  
in depth by approximately 0.41 meters or 6100 cubic meters in volume. A  
24 hour composite sample was taken at the effluent structure for each day  
of discharge until the drawdown was complete. Samples were analyzed for  
BOD<sub>5</sub>, TSS, and TKN and the results are presented in Figures 17, 18, 19, 20,  
21 and 22 for each isolation cycle for both ponds. These figures represent  
the performance of each pond during the study period as measured by BOD<sub>5</sub>,  
TSS, and TKN. The performance data for these parameters are plotted with  
a reference line indicating the NPDES permit limitations for Clinton,  
Mississippi. Table 10 is a summary of the composite isolation pond  
effluent averaged data for BOD<sub>5</sub>, TSS, TKN-N, DO, pH, and fecal coliform

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counts for ponds 1 and 2.

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Pond number 1 produced an effluent which complied with the NPDES limitations 4 out of 8 discharge cycles for TSS and 7 out of 8 discharge cycles for BOD<sub>5</sub> and TKN. Pond number 2 was found to be in compliance 2 out of 8 discharge cycles for TSS, 4 out of 8 for BOD<sub>5</sub>, and 8 out of 8 for TKN. Notably, both ponds maintained compliance with the NPDES limits for dissolved oxygen, fecal coliform, and pH. In situ and effluent monitoring data for the entire study are presented in Tables A-1 through B-15.

## PERFORMANCE SUMMARY

In the final evaluation of "Phase Isolation," it appears that the process can, at times, produce an effluent which will meet the NPDES limitations for Clinton, Mississippi. However, as demonstrated during this study the process is not consistent in its performance and would not be considered as a final process unit. A significant correlation was found between the area rainfall and effluent BOD<sub>5</sub> and TSS, indicating sensitivity of the process to climatic and seasonal conditions.

A multiple regression equation was generated with a correlation coefficient of 0.935 which provides a predictive tool for effluent suspended solids as a function of secchi depth, TSS, BOD<sub>5</sub>, COD, TOC, organic nitrogen, ammonia nitrogen, nitrite and nitrate nitrogen, and total phosphorus. A correlation matrix showed a relationship between the effluent suspended solids and in situ secchi depth, suspended solids, nitrate nitrogen, and total phosphorus.

Microscopic examinations revealed the algal form of Chlorella to appear most often in both ponds with Oscillatoria, Ankistrodesmus, Pediastrum and Ulothrix dominating to a lesser degree.

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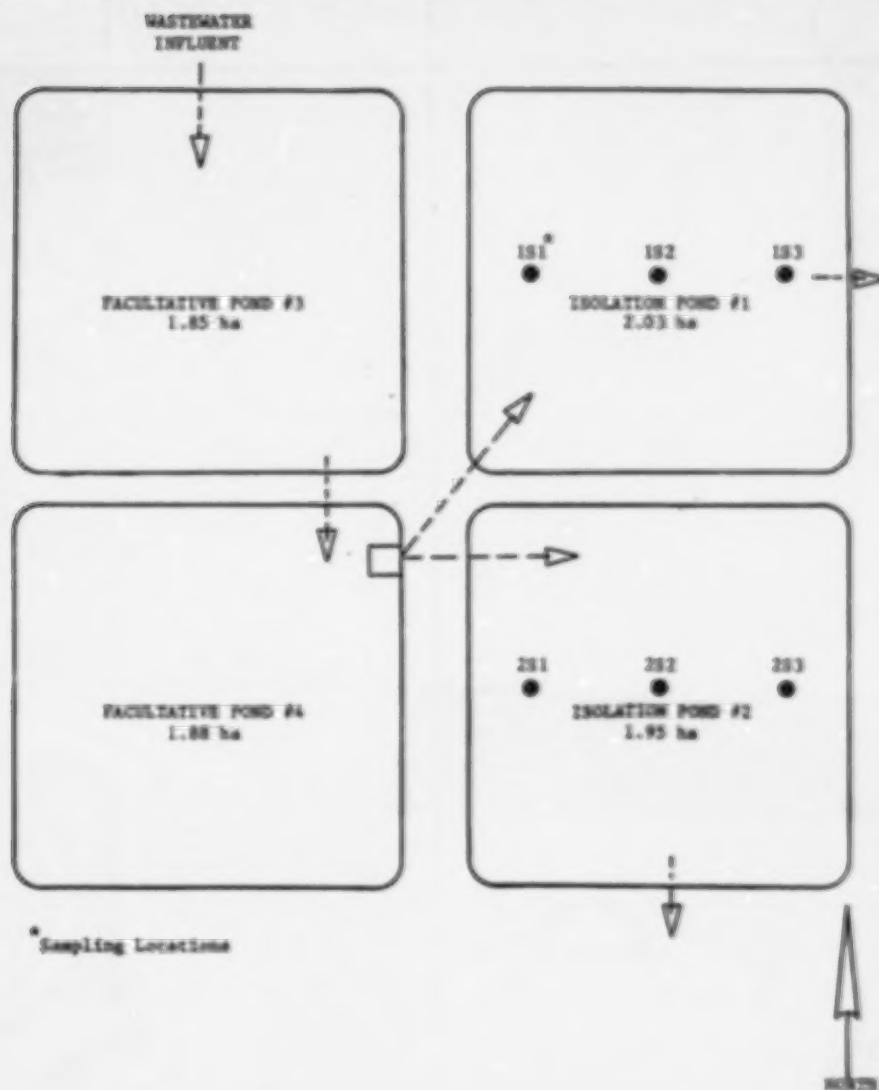


Figure 1. Facultative and isolation pond arrangement at Clinton, Mississippi.

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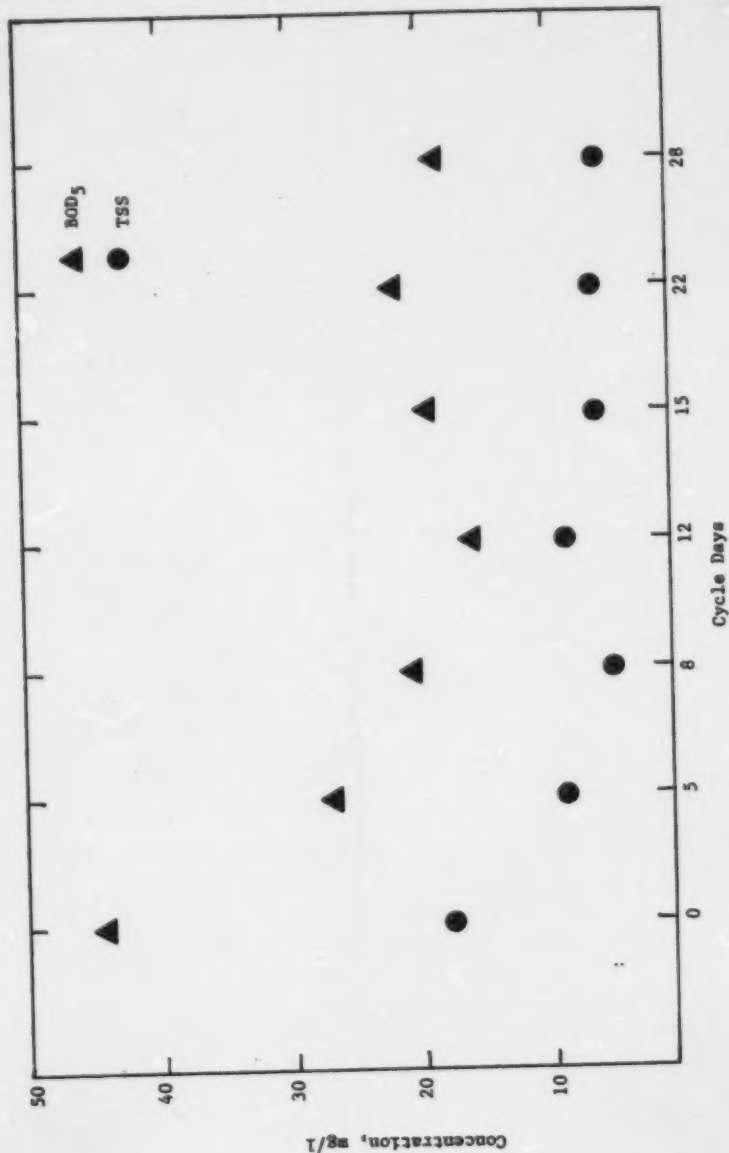


Figure 2 : In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 1, isolation cycle 1.

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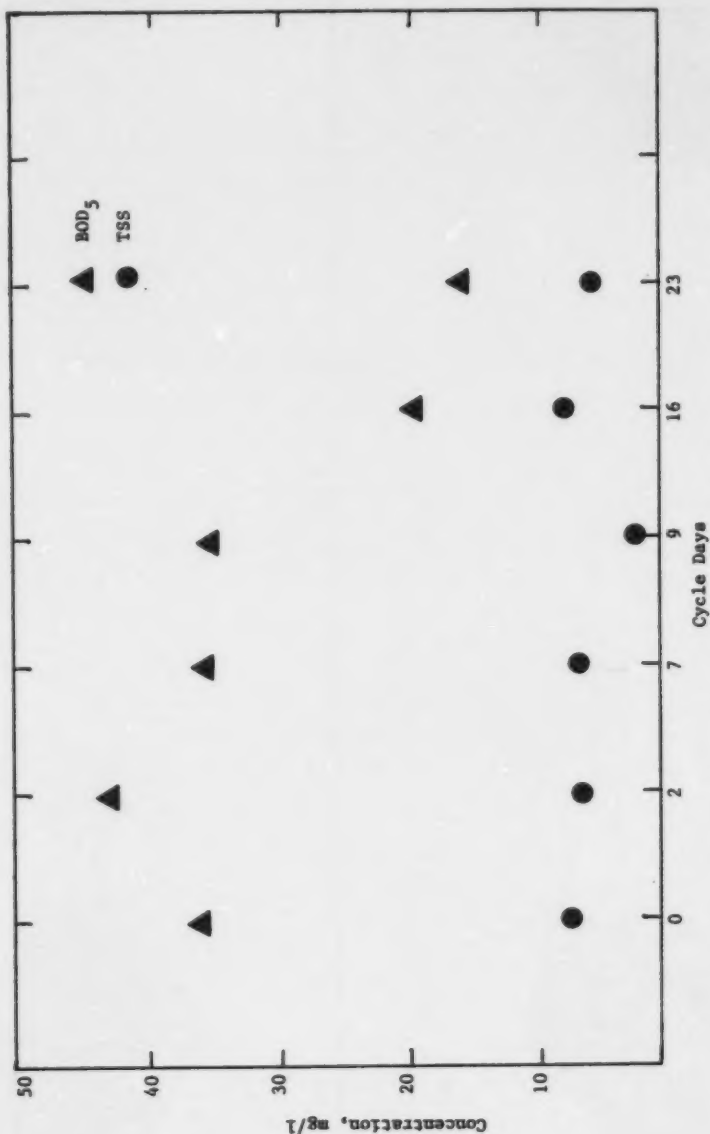


Figure 3: In situ  $BOD_5$  and Total Suspended Solids (TSS) for pond 1, isolation cycle 2.

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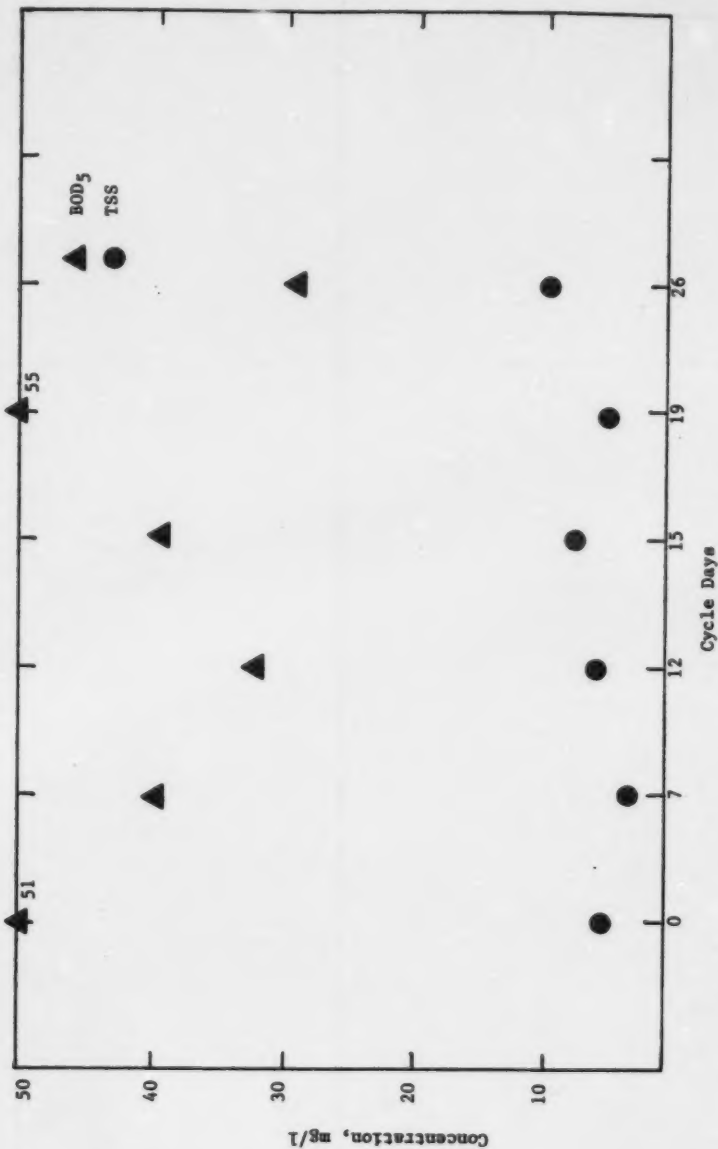


Figure 4: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 1, isolation cycle 3.

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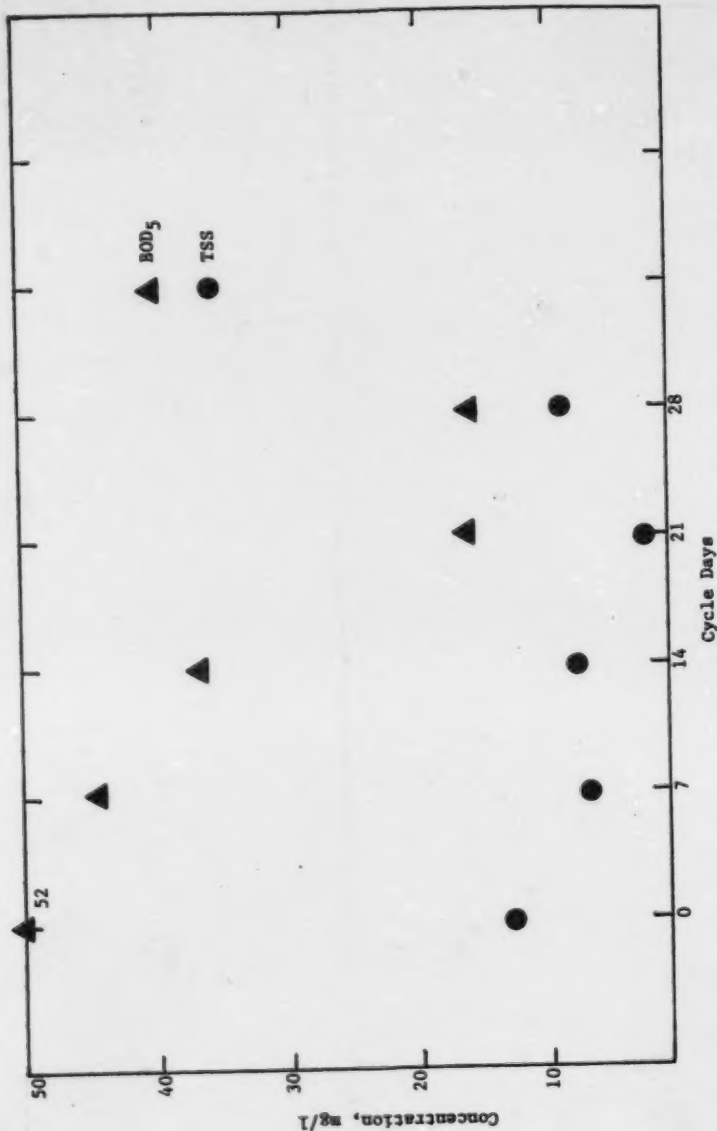


Figure 5: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 1, isolation cycle 4.

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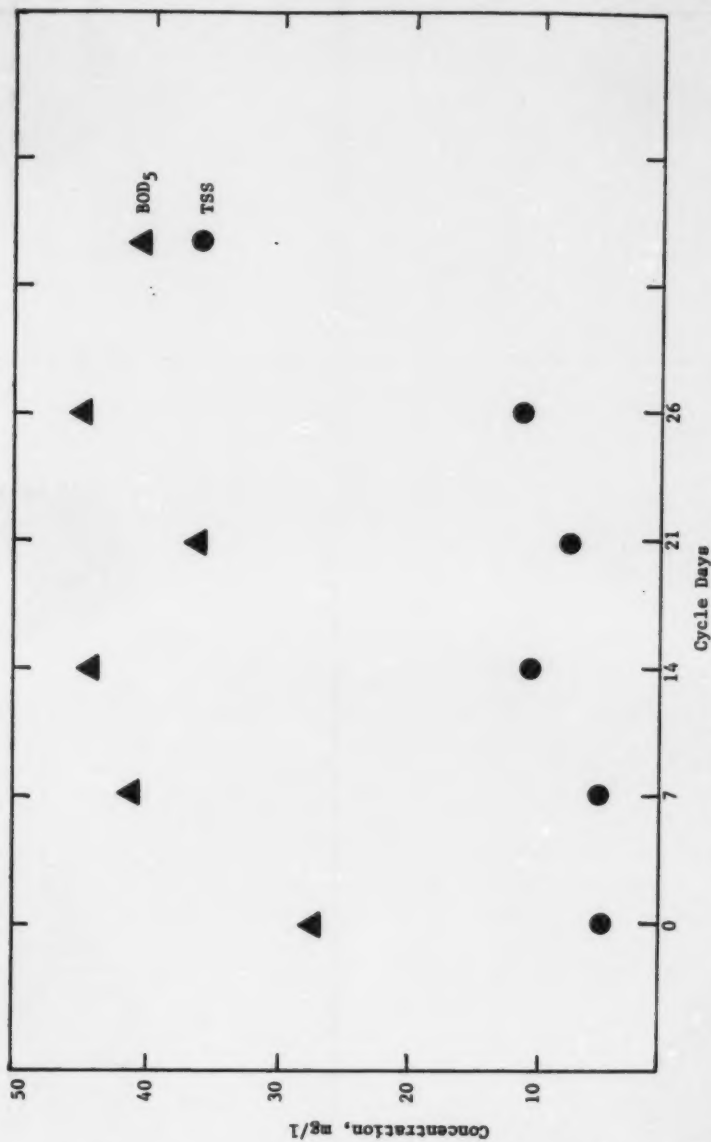


Figure 6: In situ  $BOD_5$  and Total Suspended Solids (TSS) for pond 1, isolation cycle 5.

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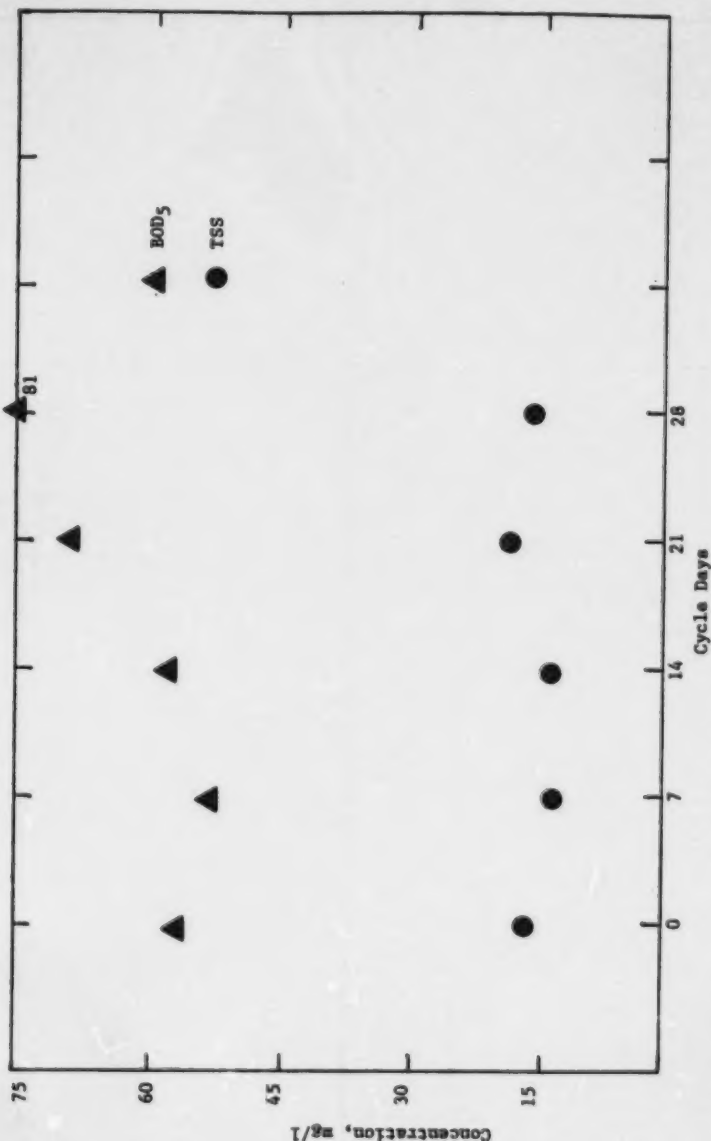


Figure 7: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 1, isolation cycle 6.

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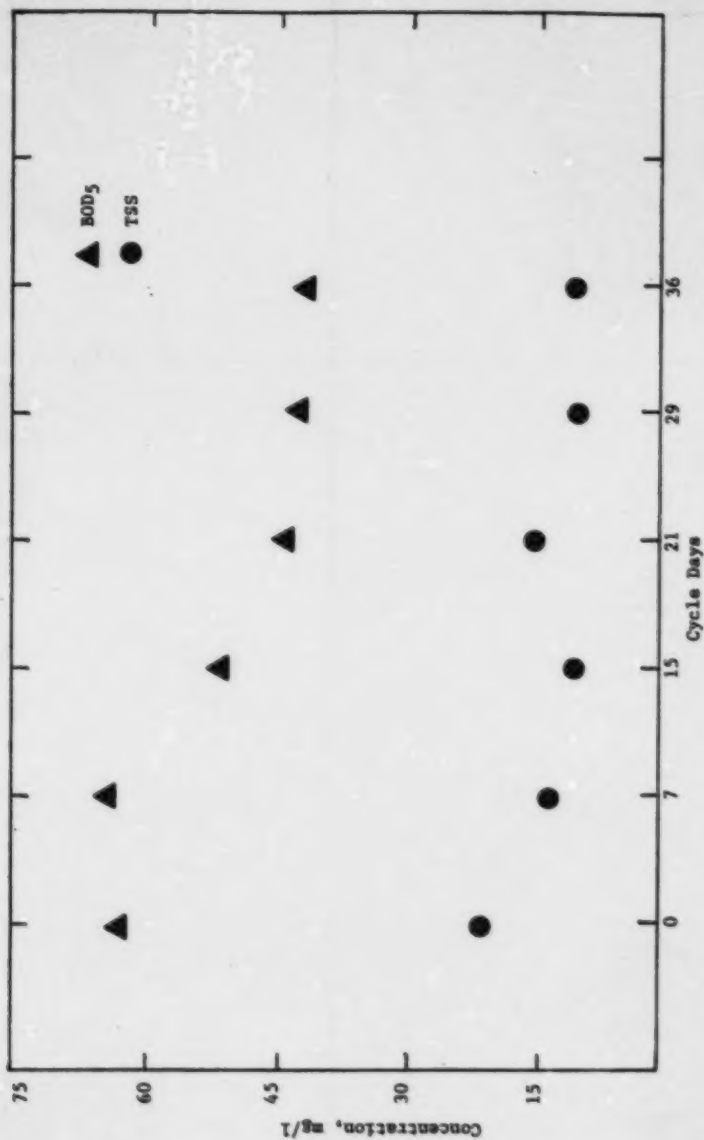


Figure 8: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 1, isolation cycle 7.

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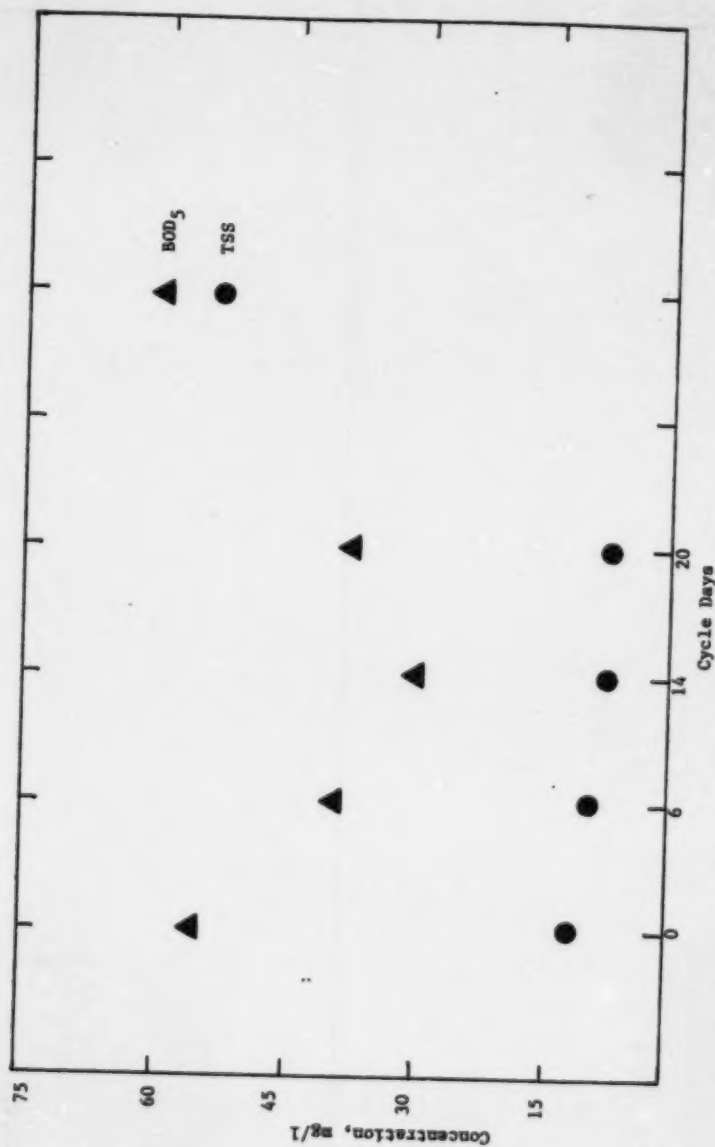


Figure 9: In situ  $BOD_5$  and Total Suspended Solids (TSS) for pond 1, isolation cycle 8.

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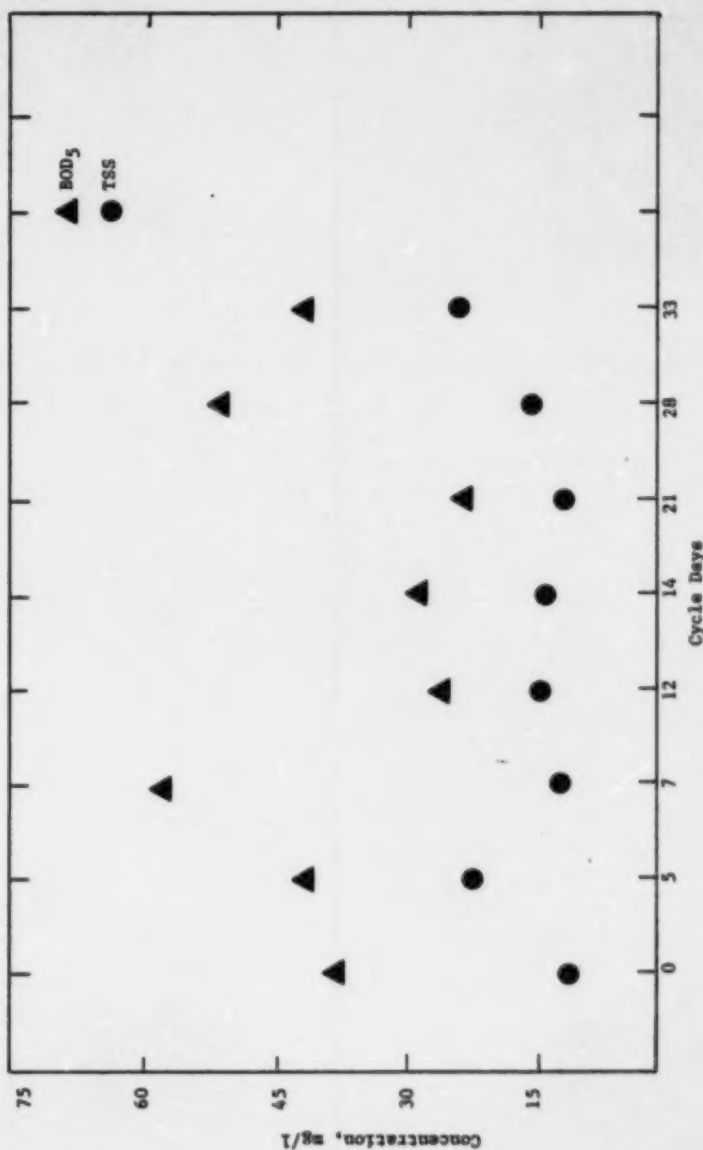


Figure 10: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 2, isolation cycle 1.

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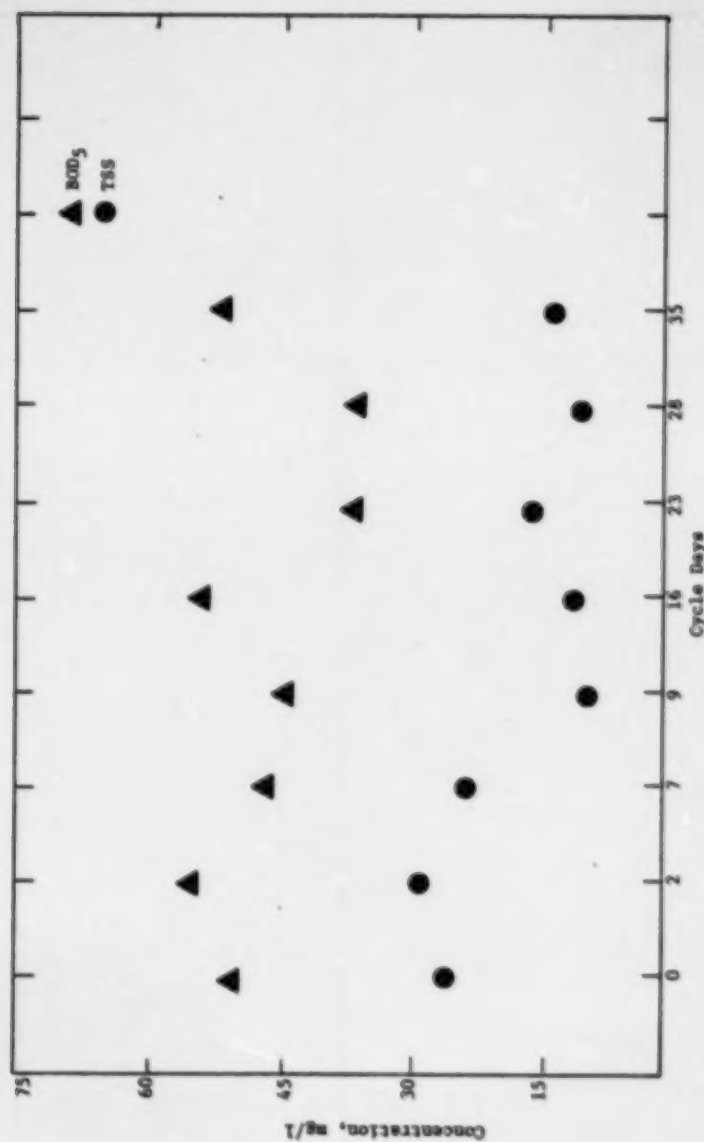


Figure 11: In situ  $BOD_5$  and Total Suspended Solids (TSS) for pond 2, isolation cycle 2.

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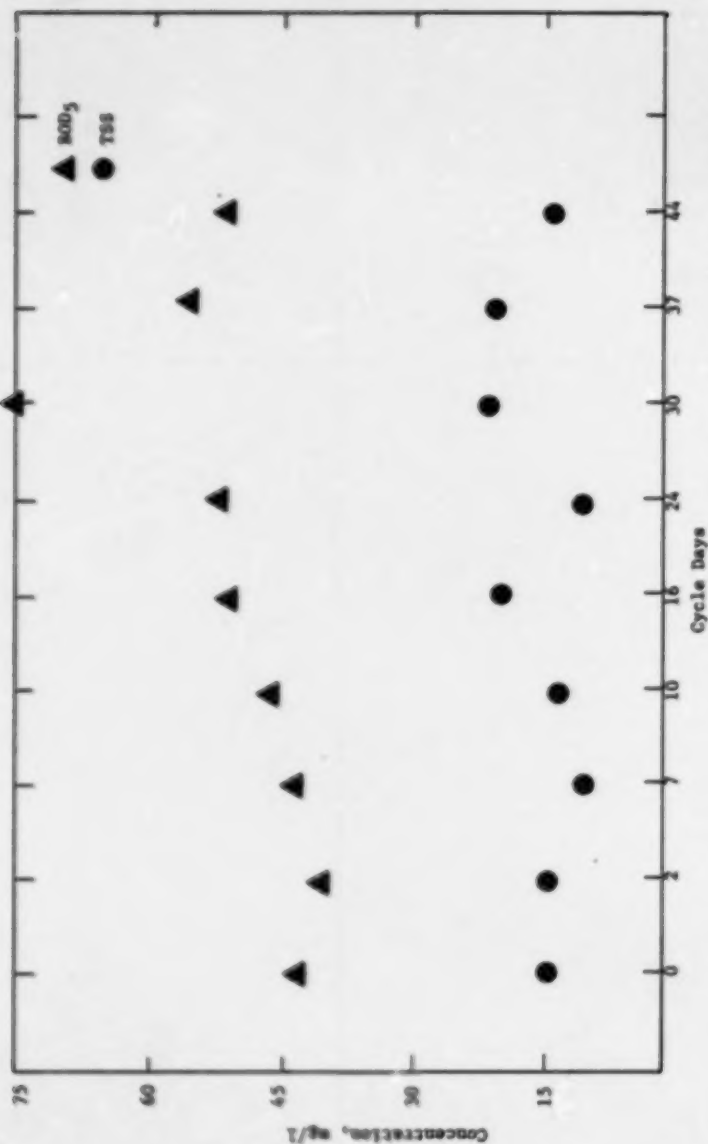


Figure 12: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 2, Isolation cycle 3.

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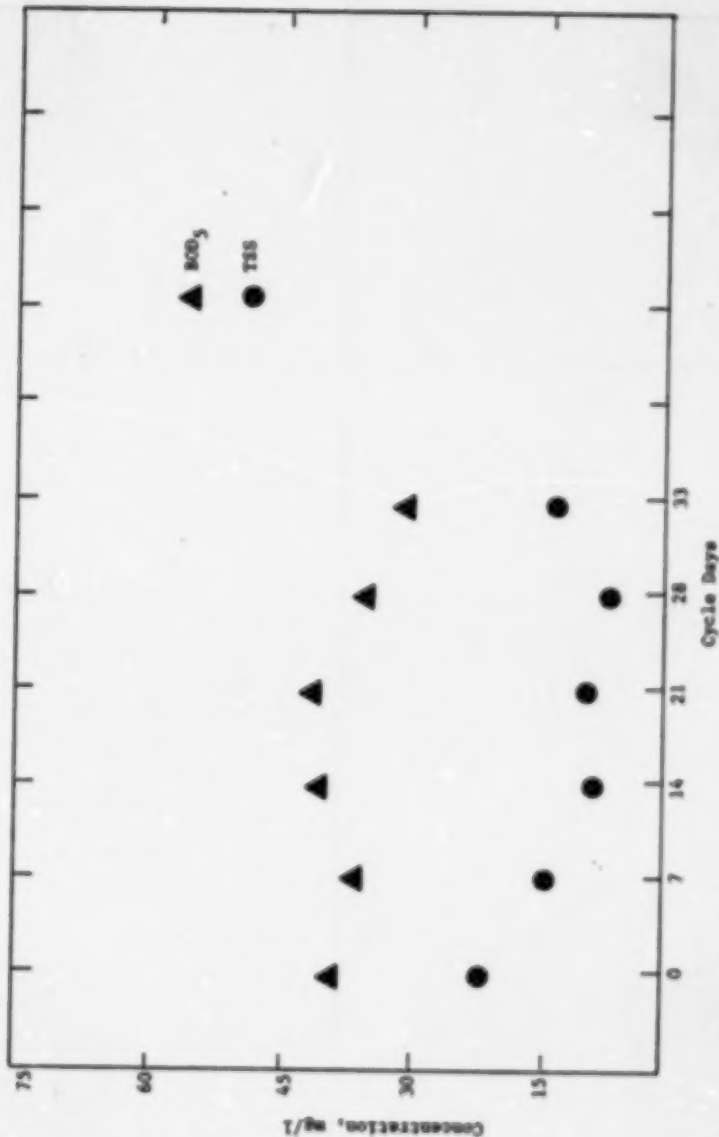


Figure 13: In situ  $BOD_5$  and Total Suspended Solids (TSS) for pond 2, isolation cycle 4.

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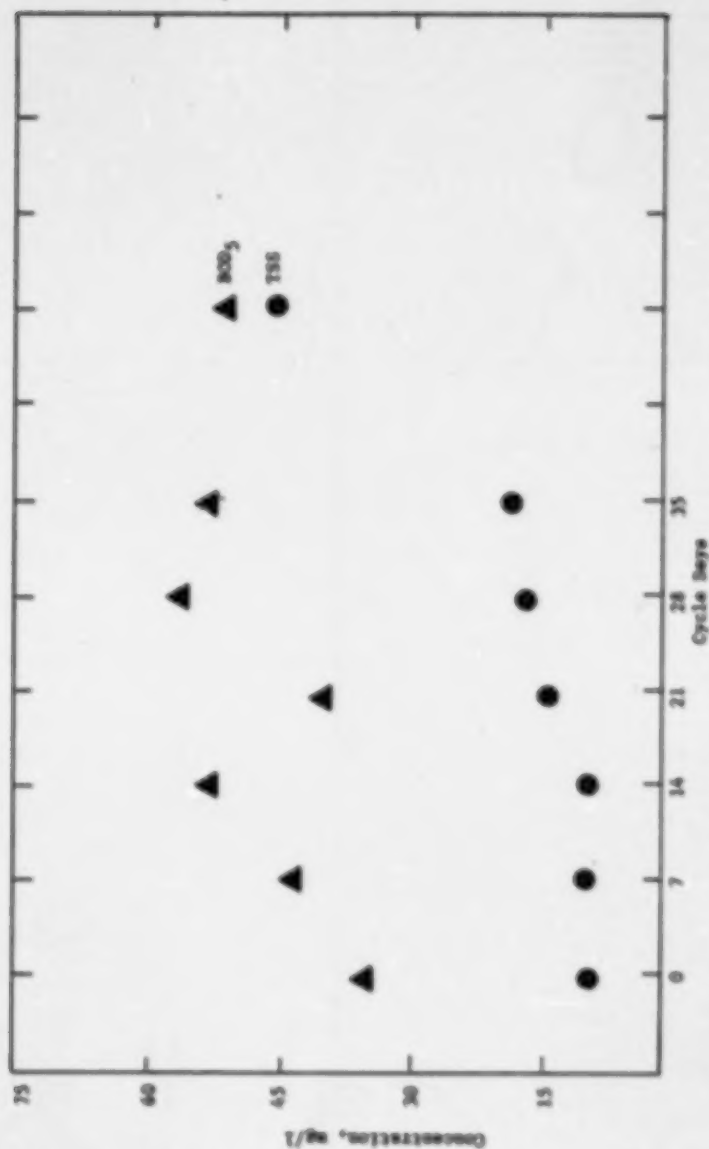


Figure 14: In situ BOD<sub>5</sub> and Total Suspended Solids (TSS) for pond 2, Isolation cycle 5.

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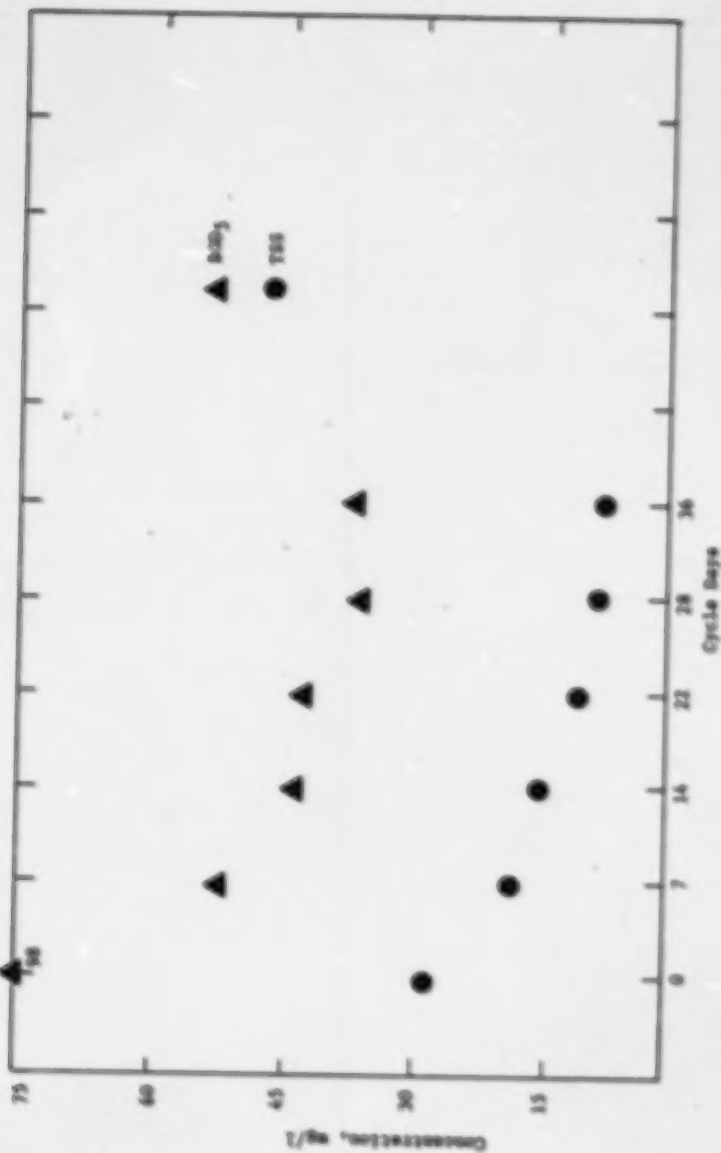


Figure 15: In situ SO<sub>2</sub> and Total Suspended Solids (TSS) for pond 2, Isolation cycle 6.

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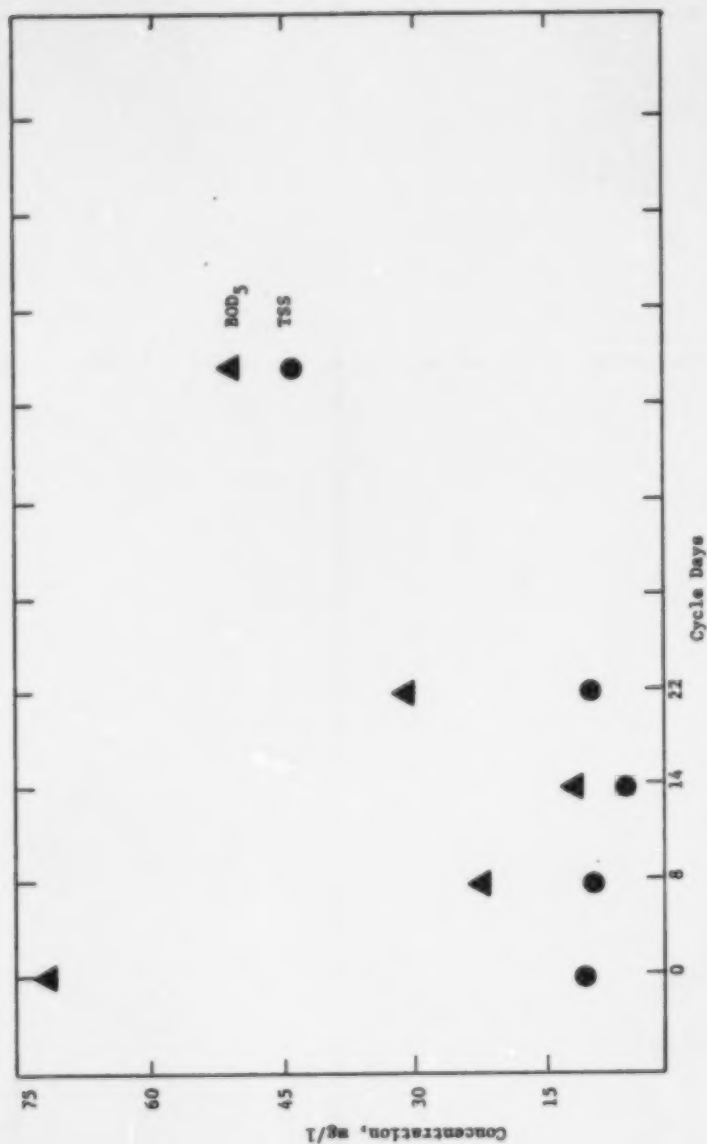


Figure 16: In situ  $BOD_3$  and Total Suspended Solids (TSS) for pond 2, isolation cycle 7.

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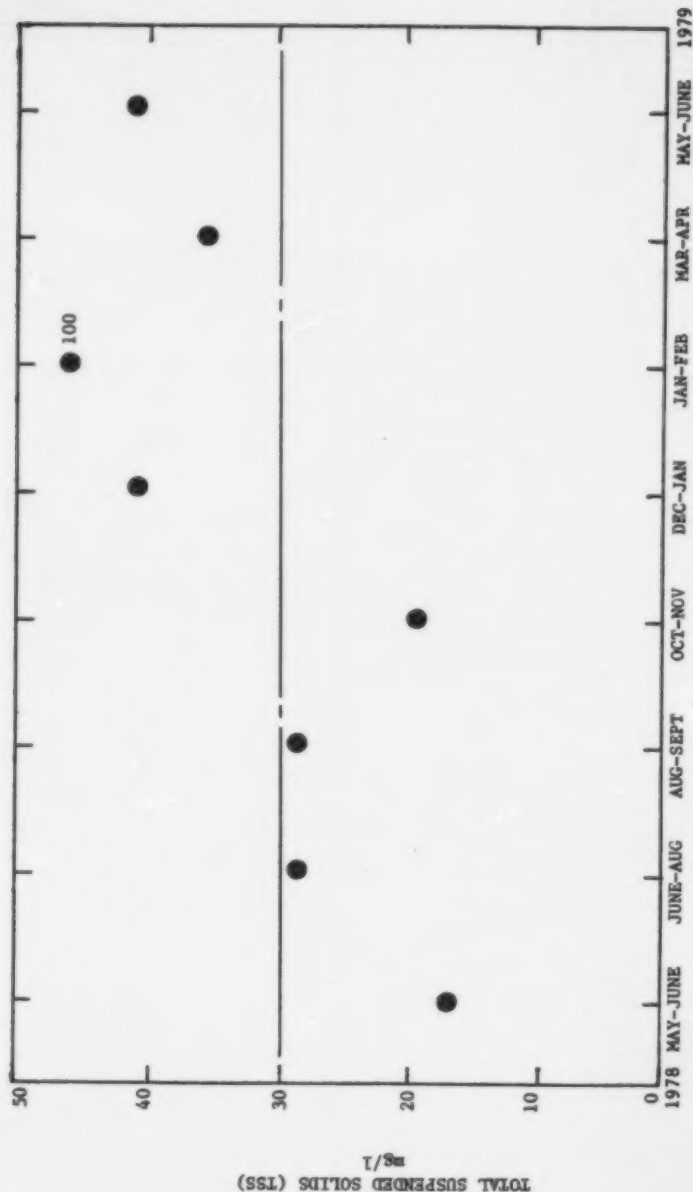


Figure 17: Total Suspended Solids (TSS) in isolation pond effluents: Isolation Pond 1.

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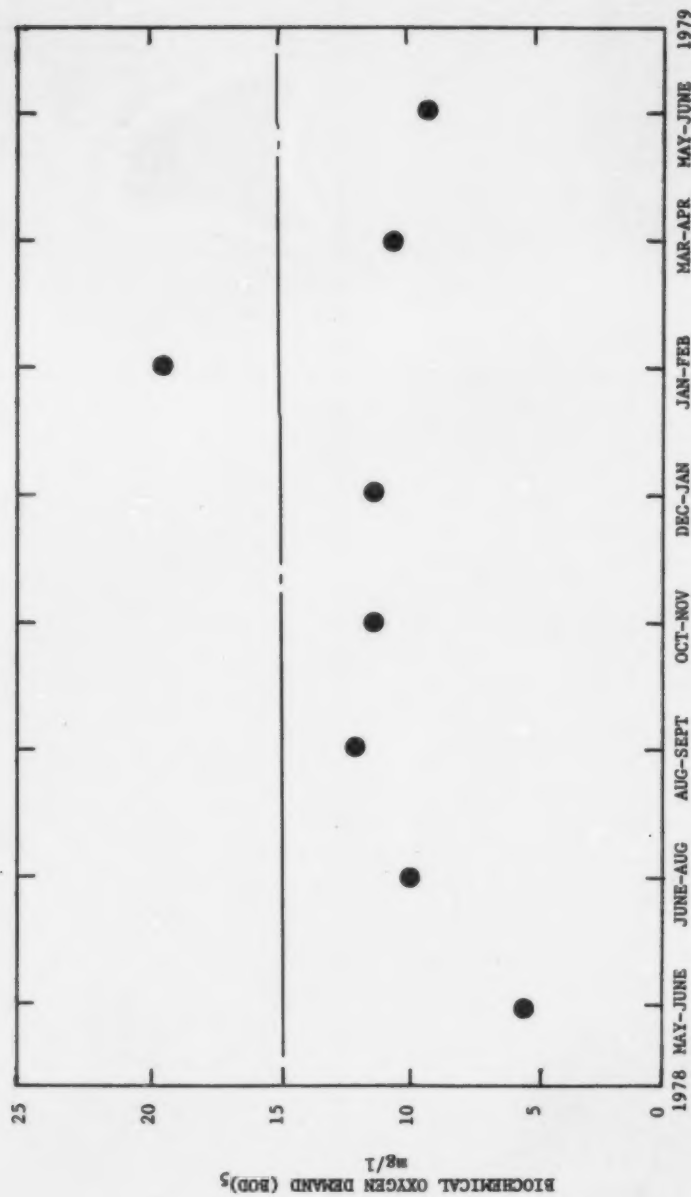


Figure 18: Biochemical Oxygen Demand (BOD)<sub>5</sub> in isolation pond effluents: Isolation Pond 1.

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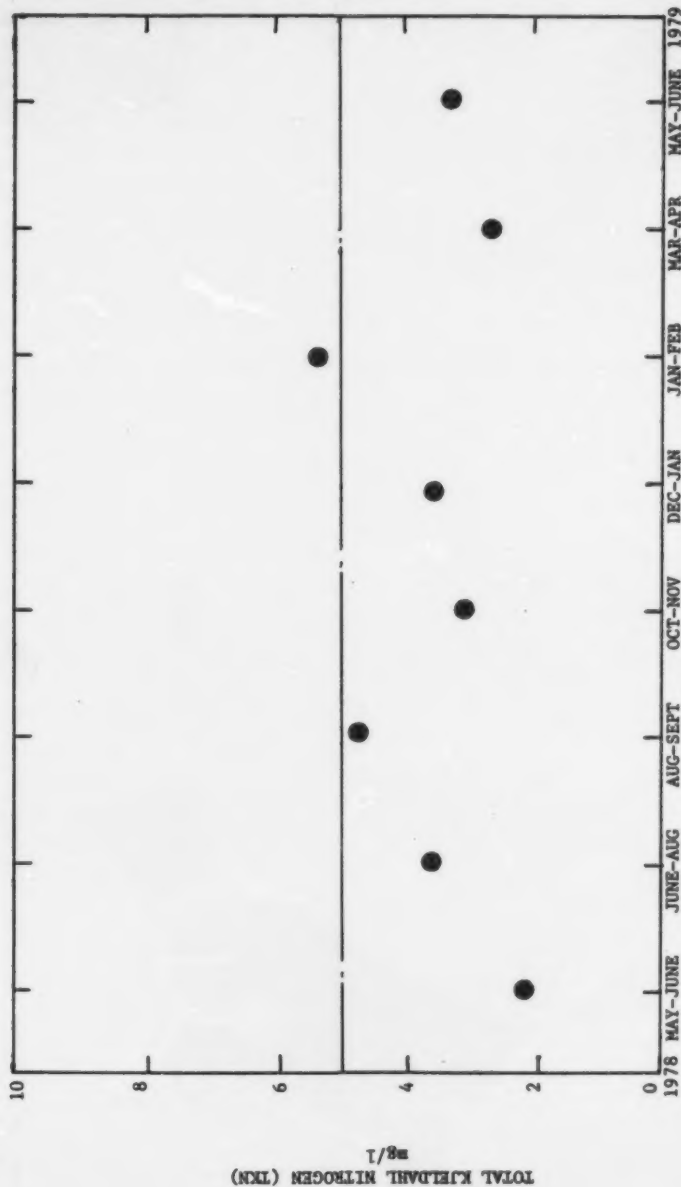


Figure 19: Total Kjeldahl Nitrogen (TKN) in isolation pond effluents: Isolation Pond 1.

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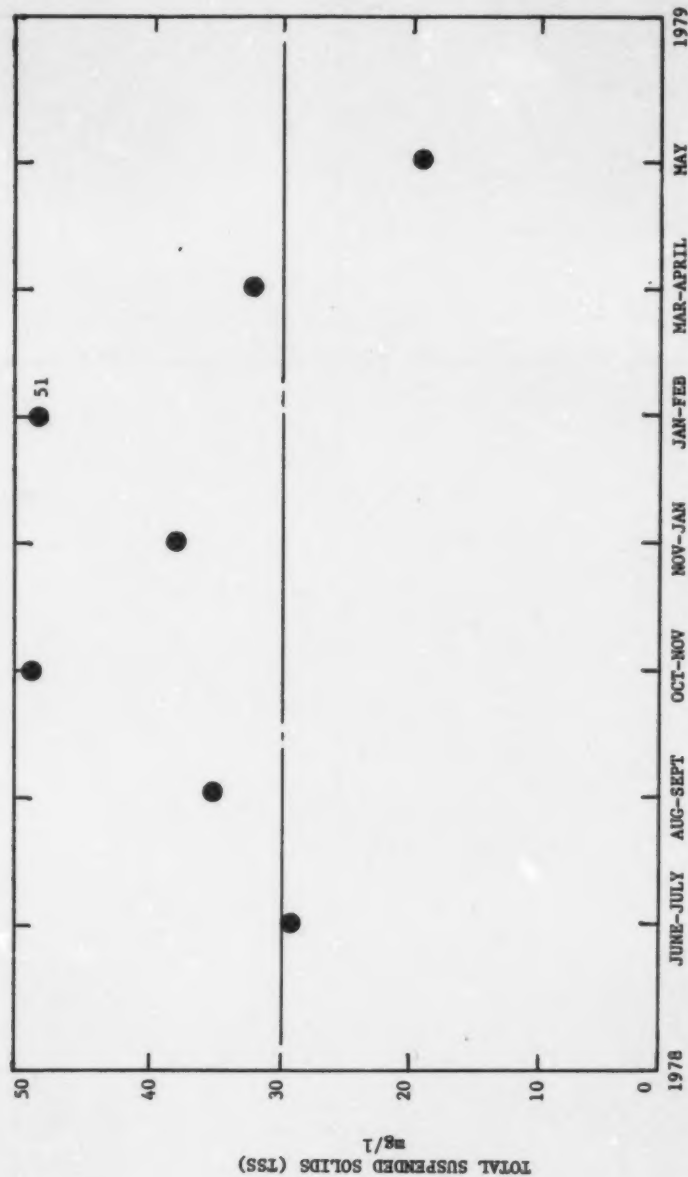


Figure 20: Total Suspended Solids (TSS) in isolation pond effluents: Isolation Pond 2 .

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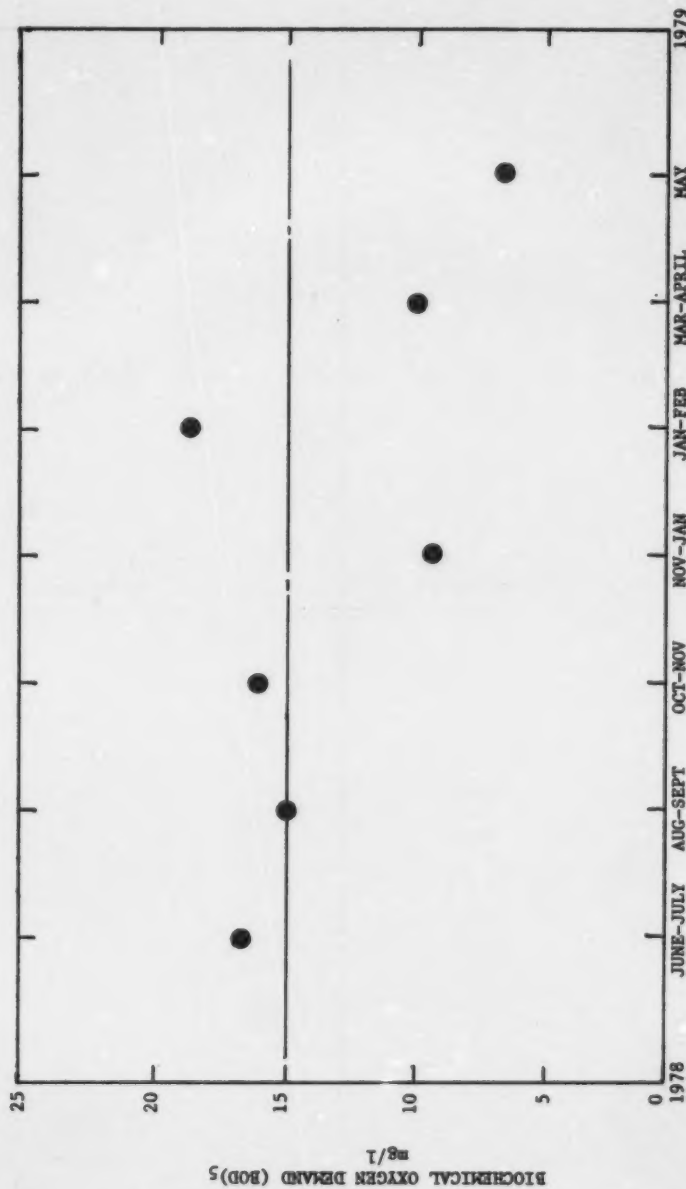


Figure 21: Biochemical Oxygen Demand (BOD)<sub>5</sub> in isolation pond effluents: Isolation Pond 2.

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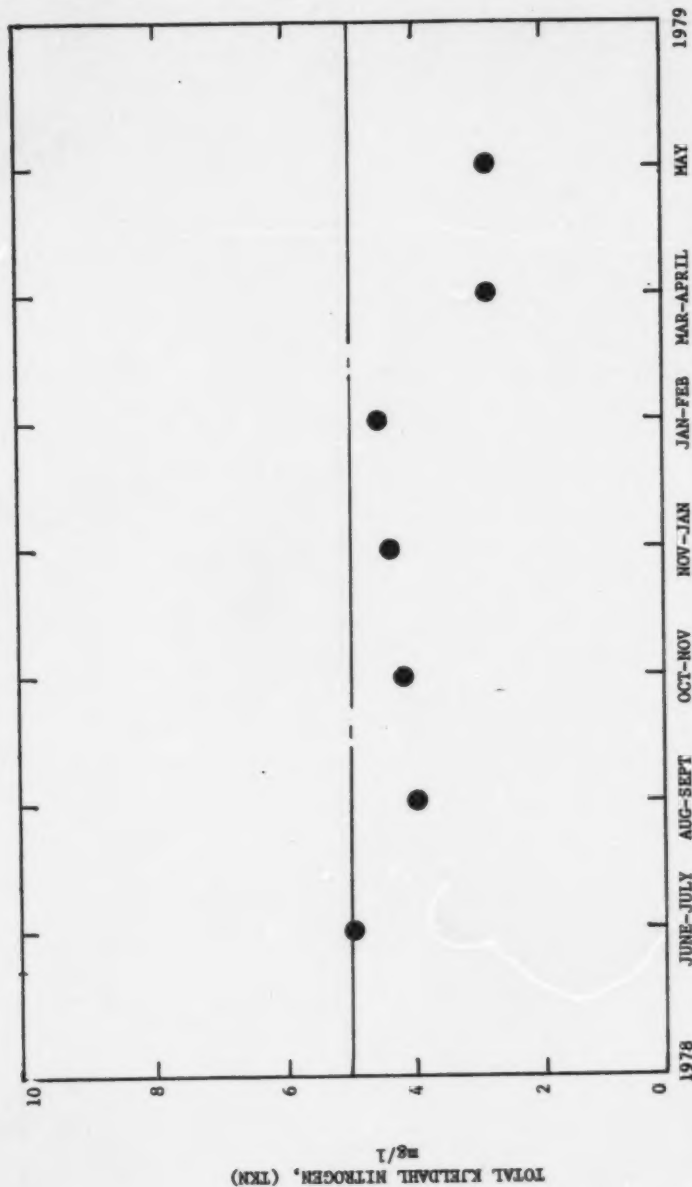


Figure 22: Total Kjeldahl Nitrogen (TKN) in Isolation pond effluents: Isolation Pond 2.

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TABLE 1. AVERAGE ANALYSES OF DOMESTIC WASTEWATER FOR CLINTON, MISSISSIPPI\*

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| Parameter                                             | Facultative Pond Data |          |
|-------------------------------------------------------|-----------------------|----------|
|                                                       | Influent              | Effluent |
| BOD <sub>5</sub> , Total, mg/l                        | 203                   | 48       |
| COD, Total, mg/l                                      | 437                   | 273      |
| Organic Carbon, Total, mg/l                           | 156                   | 114      |
| Nitrogen, Total Kjeldahl, mg/l                        | 23.2                  | 17.6     |
| Nitrogen, Ammonia, mg/l                               | 11.5                  | 8.3      |
| Phosphorus, Total, mg/l                               | 14                    | 7.9      |
| Residue, Total Nonfilterable<br>(TSS), mg/l 6-1/2"    | 386                   | 59       |
| Residue, Total Volatile<br>Nonfilterable (TVSS), mg/l | 172                   | 51       |
| pH, Units 9-1/8"                                      | 7.1-7.3               | 7.2-7.9  |

\*The average facultative pond loading was calculated as 57 kg/ha/day BOD<sub>5</sub>.  
Data presented are an annual average of 15, 24 hour composite samples.

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TABLE 2: RAW SEWAGE LOADING TO CLINTON  
FACULTATIVE PONDS: JUNE 1978 TO JUNE 1979\*

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| Month     | Flow<br>m <sup>3</sup> /day | COD<br>mg/l | BOD <sub>5</sub><br>mg/l | Overall Loading Rates               |                               |
|-----------|-----------------------------|-------------|--------------------------|-------------------------------------|-------------------------------|
|           |                             |             |                          | Hydraulic<br>m <sup>3</sup> /ha/day | BOD <sub>5</sub><br>Kg/ha/day |
| June      | 893                         | 480         | 236                      | 257                                 | 61                            |
| July      | 886                         | 490         | 245                      | 255                                 | 62                            |
| August    | 871                         | 475         | 210                      | 251                                 | 53                            |
| September | 852                         | 450         | 195                      | 245                                 | 90                            |
| October   | 840                         | 410         | 189                      | 242                                 | 48                            |
| November  | 833                         | 420         | 181                      | 239                                 | 44                            |
| December  | 908                         | 392         | 170                      | 261                                 | 45                            |
| January   | 946                         | 398         | 185                      | 272                                 | 51                            |
| February  | 984                         | 411         | 196                      | 283                                 | 55                            |
| March     | 1021                        | 418         | 202                      | 294                                 | 60                            |
| April     | 1003                        | 426         | 209                      | 288                                 | 60                            |
| May       | 927                         | 472         | 219                      | 267                                 | 59                            |

\*Based upon one (1) 24 hour composite sample per month.

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TABLE 3. ISOLATION POND STUDY CYCLES, DATES, AND RAINFALL DATA

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| Pond | Cycle | Date            | Period<br>Days | Rainfall<br>mm |
|------|-------|-----------------|----------------|----------------|
| 1    | 1     | 5/24-6/21, 1978 | 28             | 64.5           |
|      | 2     | 7/17-8/9        | 23             | 61.2           |
|      | 3     | 8/30-9/25       | 26             | 151.1          |
|      | 4     | 10/23-11/20     | 28             | 35.8           |
|      | 5     | 12/7-1/2        | 26             | 168.4          |
|      | 6     | 1/25-2/22, 1979 | 28             | 312.4          |
|      | 7     | 3/19-4/24       | 36             | 99.3           |
|      | 8     | 5/15-6/4        | 20             | 38.6           |
| 2    | 1     | 6/21-7/24, 1978 | 33             | 39.9           |
|      | 2     | 8/14-9/18       | 35             | 142.2          |
|      | 3     | 10/2-11/15      | 44             | 28.7           |
|      | 4     | 11/30-1/2       | 33             | 199.6          |
|      | 5     | 1/18-2/22, 1979 | 35             | 464.8          |
|      | 6     | 3/12-4/17       | 36             | 97.8           |
|      | 7     | 5/7-5/29        | 22             | 76.7           |

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TABLE 4: ANALYTICAL PROTOCOL REFERENCE LIST

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| ANALYSIS                  | REFERENCE | REFERENCE PAGE |
|---------------------------|-----------|----------------|
| Alkalinity                | 1         | 278            |
| Biochemical Oxygen Demand | 1         | 543            |
| Chemical Oxygen Demand    | 1         | 550            |
| Total Organic Carbon      | 1         | 532            |
| Dissolved Oxygen          | 1         | 450            |
| Nitrogen, Organic         | 1         | 437            |
| Nitrogen, Ammonia         | 1         | 410            |
| Nitrogen, Nitrate         | 1         | 427            |
| Nitrogen, Nitrite         | 1         | 434            |
| Phosphorus, Total         | 1         | 481            |
| Phosphorus, Ortho         | 1         | 481            |
| pH                        | 1         | 460            |
| Temperature               | 1         | 125            |
| Total Suspended Solids    | 1         | 94             |
| Volatile Suspended Solids | 1         | 95             |
| Fecal Coliform            | 1         | 937            |
| Phytoplankton Counting    | 1         | 1024           |

Reference 1 - 14th Edition Standard Methods, 1975

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TABLE 5. SUMMARY OF ISOLATION POND INFLUENT COMPOSITE DATA: POND 1\*

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| Parameter                      | Isolation Pond Cycle |      |      |      |      |      |      |      |
|--------------------------------|----------------------|------|------|------|------|------|------|------|
|                                | 1                    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
| BOD <sub>5</sub> , Total, mg/l | 35                   | 41   | 42   | 38   | 51   | 33   | 45   | 48   |
| COD, Total, mg/l               | 200                  | 213  | 227  | 235  | 301  | 205  | 248  | 317  |
| TOC, Total, mg/l               | 90                   | 115  | 110  | 76   | 122  | 76   | 95   | 106  |
| TSS, mg/l                      | 49                   | 55   | 65   | 48   | 87   | 46   | 65   | 74   |
| TVSS, mg/l                     | 44                   | 46   | 52   | 42   | 71   | 39   | 56   | 67   |
| TKN-N, mg/l                    | 16.2                 | 18.6 | 18.1 | 18.0 | 19.4 | 18.8 | 16.1 | 16.0 |
| NH <sub>3</sub> -N, mg/l       | 6.5                  | 7.8  | 8.8  | 8.2  | 9.2  | 8.8  | 6.8  | 6.7  |
| Phosphorus, Total, mg/l        | 7.8                  | 7.5  | 8.8  | 7.2  | 8.6  | 8.7  | 7.0  | 8.1  |
| pH, Units                      | 7.0                  | 7.2  | 7.4  | 7.3  | 7.3  | 7.3  | 7.0  | 7.3  |
|                                | to                   | to   | to   | to   | to   | to   | to   | to   |
|                                | 7.4                  | 7.6  | 7.9  | 7.8  | 7.6  | 7.5  | 7.3  | 7.5  |

\*Based upon a 24 hour composite sample.

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TABLE 6. SUMMARY OF ISOLATION POND INFLUENT COMPOSITE DATA: POND 2\*

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| Parameter                | Isolation Pond Cycle |      |      |      |      |      |      |
|--------------------------|----------------------|------|------|------|------|------|------|
|                          | 1                    | 2    | 3    | 4    | 5    | 6    | 7    |
| BOD <sub>5</sub>         | 42                   | 53   | 55   | 65   | 56   | 52   | 58   |
| COD, Total, mg/l         | 255                  | 295  | 315  | 371  | 308  | 297  | 305  |
| TOC, Total, mg/l         | 105                  | 132  | 138  | 163  | 145  | 115  | 125  |
| TSS, mg/l                | 38                   | 51   | 55   | 75   | 61   | 58   | 59   |
| TVSS, mg/l               | 34                   | 43   | 41   | 69   | 56   | 51   | 48   |
| TKN-N, mg/l              | 18.1                 | 17.2 | 17.8 | 19.1 | 17.2 | 16.8 | 16.9 |
| NH <sub>3</sub> -N, mg/l | 7.6                  | 8.9  | 9.1  | 10.3 | 8.3  | 8.1  | 8.9  |
| Phosphorus, Total, mg/l  | 7.6                  | 8.1  | 8.3  | 8.5  | 7.8  | 7.5  | 7.6  |
| pH, Units                | 7.3                  | 7.6  | 7.8  | 7.3  | 7.4  | 7.4  | 7.4  |
|                          | to                   | to   | to   | to   | to   | to   | to   |
|                          | 7.6                  | 7.9  | 7.9  | 7.7  | 7.7  | 7.6  | 7.7  |

\*Based upon a 24 hour composite sample.

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**TABLE 7. A SIMPLIFIED TREND CHART FOR IN SITU QUALITY  
DURING ISOLATION: ISOLATION PONDS 1 AND 2**

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| Pond 1 | BOD <sub>5</sub> | COD | TSS | TKN |
|--------|------------------|-----|-----|-----|
| 1      | ↓                | ↓   | ↓   | ↓   |
| 2      | ↓                | ↓   | ↓   | ↓   |
| 3      | ↑                | ↑   | ↓   | →   |
| 4      | →                | ↓   | ↓   | ↑   |
| 5      | →                | ↑   | ↑   | →   |
| 6      | ↓                | ↓   | ↑   | ↑   |
| 7      | ↓                | ↓   | ↓   | ↓   |
| 8      | ↓                | ↑   | ↓   | ↓   |

| Pond 2 | BOD <sub>5</sub> | COD | TSS | TKN |
|--------|------------------|-----|-----|-----|
| 1      | →                | →   | ↑   | ↑   |
| 2      | ↓                | →   | →   | ↓   |
| 3      | ↑                | ↑   | ↑   | ↓   |
| 4      | ↓                | ↓   | ↓   | ↓   |
| 5      | ↓                | ↓   | ↑   | ↓   |
| 6      | ↓                | ↓   | ↓   | ↓   |
| 7      | ↑                | ↑   | ↓   | ↓   |

- ↑ Increasing trend through isolation cycle
- ↓ Decreasing trend through isolation cycle
- No change through isolation cycle

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**TABLE 8. CORRELATION MATRIX FOR FINAL ISOLATION POND IN SITU  
QUALITY PARAMETERS AND EFFLUENT SUSPENDED SOLIDS**

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| Variable<br>Number | 1      | 2      | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------------|--------|--------|---|---|---|---|---|---|---|----|----|
| 1                  | +      |        |   |   |   |   |   |   |   |    |    |
| 2                  | -      | +      |   |   |   |   |   |   |   |    |    |
| 3                  | *      | +      | + |   |   |   |   |   |   |    |    |
| 4                  | *      | *      | + | + |   |   |   |   |   |    |    |
| 5                  | -      | +      | + | + | + |   |   |   |   |    |    |
| 6                  | *      | +      | + | + | + | + |   |   |   |    |    |
| 7                  | *      | 6-1/2" | * | * | - | * | + |   |   |    |    |
| 8                  | -      | *      | + | * | * | * | * | + |   |    |    |
| 9                  | 8-1/8" | -      | + | + | * | * | * | * | + | +  |    |
| 10                 | +      | -      | * | + | * | * | * | - | - | +  |    |
| 11                 | -      | +      | * | * | * | * | * | * | + | -  | +  |

1-Secchi Depth, 2-TSS, 3-BOD<sub>5</sub>, 4-COD, 5-TOC, 6-Organic Nitrogen,  
7-Ammonia Nitrogen, 8-Nitrite Nitrogen, 9-Nitrate Nitrogen,  
10-Total Phosphorus, 11-TSS-Effluent

+ Positive Correlation, - Negative Correlation, \* Insignificant  
Correlation At The 10 Percent Level

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TABLE 9 IN SITU ALGAL CONCENTRATIONS FOR FINAL ISOLATION DAY

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| Total Organism Count<br>(Units Per Milliter x 10 <sup>3</sup> ) |                 |      |      |       |      |       |      |     |
|-----------------------------------------------------------------|-----------------|------|------|-------|------|-------|------|-----|
| Pond No. 1                                                      | Isolation Cycle |      |      |       |      |       |      |     |
| Algae                                                           | 1               | 2    | 3    | 4     | 5    | 6     | 7    | 8   |
| <u>Ankistrodesmus</u>                                           |                 |      |      |       |      |       |      |     |
| <u>Chlorella</u>                                                |                 |      | 0.7  | 9.3   | 56.6 | 50.7  | 3.3  |     |
| <u>Closterium</u>                                               | 1.9             | 7.4  |      |       |      |       | 1.5  |     |
| <u>Oscillatoria</u>                                             |                 |      |      |       |      |       | 0.7  |     |
| <u>Pediastrum</u>                                               | 9.3             | 7.8  | 3.0  | 1.8   | 0.4  |       |      | 1.9 |
| <u>Scenedesmus</u>                                              | 2.6             | 14.4 | 7.8  | 12.2  | 1.9  |       | 4.4  | 1.1 |
| <u>Spirogyra</u>                                                |                 |      |      |       |      | 1.1   |      |     |
| <u>Ulothrix</u>                                                 |                 |      |      |       | 3.0  |       | 4.4  | 5.5 |
| Total                                                           | 13.8            | 29.6 | 11.5 | 23.3  | 61.9 | 51.8  | 14.3 | 8.5 |
| Pond No. 2                                                      | Isolation Cycle |      |      |       |      |       |      |     |
| Algae                                                           | 1               | 2    | 3    | 4     | 5    | 6     | 7    | 8   |
| <u>Ankistrodesmus</u>                                           | 22.6            |      |      |       |      |       |      |     |
| <u>Chlorella</u>                                                |                 | 9.3  | 21.8 | 688.0 | 27.0 | 100.0 | 8.1  |     |
| <u>Closterium</u>                                               |                 |      |      |       |      |       |      |     |
| <u>Oscillatoria</u>                                             | 3.7             | 69.9 | 28.5 |       |      |       |      |     |
| <u>Pediastrum</u>                                               |                 |      |      |       |      |       |      |     |
| <u>Scenedesmus</u>                                              | 1.1             | 2.3  |      |       |      |       |      |     |
| <u>Spirogyra</u>                                                | 4.4             | 10.4 | 5.9  |       |      |       |      |     |
| <u>Ulothrix</u>                                                 |                 |      |      | 12.6  |      | 13.0  | 21.1 |     |
| Total                                                           | 31.8            | 91.9 | 56.9 | 700.6 | 27.0 | 113.0 | 29.2 |     |

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TABLE 10: SUMMARY OF ISOLATION POND EFFLUENT AVERAGE  
COMPOSITE DATA: PONDS 1 AND 2\*

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| Pond/Cycle | BOD5<br>mg/l | TSS<br>mg/l | TKN-N<br>mg/l | DO<br>mg/l | pH<br>Units | Fecal Coliform**<br>#/100 ml |
|------------|--------------|-------------|---------------|------------|-------------|------------------------------|
| 1/1        | 6            | 18          | 2.2           | 7.3        | 7.5-8.2     | 0                            |
| 2          | 10           | 29          | 3.8           | 8.7        | 7.8-9.0     | 0                            |
| 3          | 13           | 29          | 4.4           | 10.4       | 7.9-8.6     | 0                            |
| 4          | 12           | 19          | 3.1           | 10.4       | 7.4-8.0     | 0                            |
| 5          | 11           | 41          | 4.4           | 10.7       | 7.2-8.2     | 0                            |
| 6          | 19           | 100         | 5.5           | 11.3       | 7.3-8.9     | 5.7                          |
| 7          | 11           | 6.1/35      | 2.6           | 11.5       | 8.2-9.1     | 0                            |
| 8          | 9            | 41          | 3.4           | 6.6        | 7.8-8.8     | 0                            |
| Average    | 11<br>9-1/8" | 39          | 3.7           | 9.6        | 7.2-9.1     | 0                            |
| 2/1        | 17           | 29          | 5.0           | 7.2        | 7.4-8.8     | 0                            |
| 2          | 15           | 35          | 4.0           | 11.1       | 8.0-9.6     | 0                            |
| 3          | 16           | 49          | 4.1           | 11.2       | 8.0-8.7     | 0                            |
| 4          | 9            | 38          | 4.2           | 10.9       | 7.6-8.4     | 0                            |
| 5          | 18           | 51          | 4.3           | 9.8        | 7.4-8.1     | 0                            |
| 6          | 10           | 32          | 2.7           | 9.2        | 7.7-9.4     | 0                            |
| 7          | 7            | 19          | 2.7           | 7.8        | 8.7-9.8     | 0                            |
| Average    | 13           | 36          | 3.9           | 9.6        | 7.4-9.8     | 0                            |

\*NPDES Limits: BOD5 15 mg/l, TSS 30 mg/l, TKN-N 5 mg/l, DO >5.0 mg/l,  
6.0<pH<9.6, Fecal Coliform 200/100 ml

\*\*Grab Sample

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## APPENDIX A

TABLE A-1

### ISOLATION POND EFFLUENT MONITORING

| DATE       | BOD <sub>5</sub> ,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|------------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|            | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 6/21-22/78 | 4.3                        | 3.3        | 18                        | 16       | 2.7                                   | 6.1                         | 8.2         | 0                             |
| 6/22-23/78 | 3.5                        | 3.3        | 29                        | 28       | 2.1                                   | 7.5                         | 8.1         | 0                             |
| 6/23-24/78 | 6.3                        | 5.0        | 17                        | 16       | 2.2                                   | 6.5                         | 7.5         | 0                             |
| 6/24-25/78 | 7.3                        | 4.3        | 10                        | 9        | 2.1                                   | 7.6                         | 8.2         | 0                             |
| 6/25-26/78 | 8.8                        | 6.5        | 10                        | 8        | 2.0                                   | 6.5                         | 7.9         | 0                             |
| 6/26-27/78 | 4.0                        | 4.0        | 22                        | 21       | 1.9                                   | 7.1                         | 7.5         | 0                             |
| 6/27-28/78 | 6.7                        | 3.3        | 22                        | 20       | 2.1                                   | 7.3                         | 8.1         | 0                             |
| 6/28-29/78 | 4.3                        | 1.0        | 19                        | 16       | 2.4                                   | 7.8                         | 8.1         | 0                             |
| 6/29-30/78 | 6.0                        | 1.5        | 11                        | 10       | 2.0                                   | 9.6                         | 8.1         | 0                             |

Isolation Cycle 1 (5/24-6/21/78)

Monitoring Class Composite-24 Hour

Isolation Pond 1

Pond Drawdown 16.25 Inches

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TABLE A-2  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 2 (7/17-8/9/78)

Isolation Pond 1

Monitoring Class Composite-24 Hour

Pond Drawdown 16 inches

| DATE    | BOD <sub>5</sub> ,<br>mg/ℓ |            | SUSPENDED SOLIDS,<br>mg/ℓ |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/ℓ | DISSOLVED<br>OXYGEN<br>mg/ℓ | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 ml |
|---------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 8/10/78 | 7.0                        | 2.3        | 21                        | 20       | 3.7                                   | 7.7                         | 8.1         | 0                             |
| 8/11/78 | 7.5                        | 1.3        | 34                        | 32       | 4.0                                   | 8.0                         | 8.5         | 0                             |
| 8/12/78 | 8.5                        | 3.5        | 25                        | 25       | 3.8                                   | 8.8                         | 7.8         | 0                             |
| 8/13/78 | 8.3                        | 3.5        | 29                        | 29       | 3.9                                   | 8.0                         | 9.0         | 0                             |
| 8/14/78 | 10.0                       | 3.3        | 27                        | 26       | 3.8                                   | 10.2                        | 8.6         | 0                             |
| 8/15/78 | 10.0                       | 6.0        | 31                        | 30       | 3.9                                   | 7.8                         | 8.7         | 0                             |
| 8/16/78 | 15.5                       | 6.5        | 31                        | 30       | 3.6                                   | 11.0                        | 8.4         | 0                             |
| 8/17/78 | 11.5                       | 3.0        | 30                        | 28       | 4.4                                   | 8.0                         | 8.6         | 0                             |
| 8/18/78 | 9.5                        | 3.3        | 36                        | 34       | 3.7                                   | 9.6                         | 8.9         | 0                             |
| 8/19/78 | 14.0                       | 5.3        | 30                        | 29       | 2.9                                   | 8.2                         | 8.7         | 0                             |

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TABLE A-4  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 4 (10/23-11/20/78)

Monitoring Class Composite-24 Hour

Isolation Pond 1  
Pond Drawdown 14.5 Inches

| DATE     | BOD <sub>5</sub> ,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|----------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|          | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 11/21/78 | 11.3                       | 4.8        | 15                        | 14       | 2.5                                   | 10.8                        | 7.5         | 0                             |
| 11/22/78 | 12.5                       | 6.0        | 14                        | 12       | 3.0                                   | 11.8                        | 7.7         | 0                             |
| 11/23/78 | 12.5                       | 5.0        | 8                         | 7        | 2.8                                   | 10.1                        | 7.7         | 0                             |
| 11/24/78 | 11.8                       | 2.8        | 19                        | 17       | 2.6                                   | 10.8                        | 8.0         | 0                             |
| 11/25/78 | 14.0                       | 1.0        | 11                        | 10       | 2.0                                   | 10.1                        | 7.5         | 0                             |
| 11/26/78 | 9.5                        | 1.5        | 10                        | 9        | 2.6                                   | 10.1                        | 7.4         | 0                             |
| 11/27/78 | 9.3                        | 4.0        | 29                        | 24       | 4.1                                   | 9.3                         | 7.6         | 0                             |
| 11/28/78 | 10.8                       | 1.0        | 22                        | 19       | 3.8                                   | 10.2                        | 7.8         | 0                             |
| 11/29/78 | 7.3                        | 1.0        | 16                        | 15       | 3.6                                   | 10.0                        | 7.5         | 0                             |
| 11/30/78 | 16.5                       | 8.0        | 43                        | 43       | 4.4                                   | 10.8                        | 7.6         | 0                             |

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TABLE A-5  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 5 (12/7/78-1/2/79)

Monitoring Class Composite - 24 Hour

Isolation Pond 1

Pond Drawdown 16 Inches

| DATE    | BODs,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|---------|---------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL         | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 1/3/79  | 12.5          | 4.0        | 46                        | 37       | 4.6                                   | 11.4                        | 7.4         | 0                             |
| 1/4/79  | 13.0          | 5.5        | 40                        | 33       | 4.4                                   | 11.0                        | 7.5         | 0                             |
| 1/5/79  | 12.3          | 2.0        | 47                        | 41       | 5.0                                   | 10.4                        | 7.9         | 0                             |
| 1/6/79  | 8.0           | 3.8        | 32                        | 35       | 4.4                                   | 9.8                         | 7.2         | 0                             |
| 1/7/79  | 11.3          | 6.5        | 37                        | 28       | 4.1                                   | 9.8                         | 7.8         | 0                             |
| 1/8/79  | 10.5          | 2.5        | 43                        | 38       | 4.4                                   | 11.6                        | 7.4         | 0                             |
| 1/9/79  | 13.5          | 0.5        | 45                        | 34       | 4.3                                   | 11.2                        | 8.2         | 0                             |
| 1/10/79 | 11.0          | 2.0        | 40                        | 32       | 3.8                                   | 10.4                        | 7.4         | 0                             |

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| Isolation Cycle  | 6                 | 1/25/19-2/22/19 |
| Monitoring Class | Composite-24 Hour |                 |

| DATE    | BOD <sub>5</sub> ,<br>mg/l |            | TOTAL | SUSPENDED SOLIDS,<br>mg/l |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/l | DISSOLVED<br>OXYGEN<br>mg/l | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 ml |
|---------|----------------------------|------------|-------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FILTERABLE |       | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 2/23/79 | 17.5                       | 7.0        | 91    | 47                        | 5.5      | 10.8                                  | 7.6                         | 10          |                               |
| 2/26/79 | 19.0                       | 5.0        | 100   | 36                        | 5.6      | 12.2                                  | 8.0                         | 0           |                               |
| 2/27/79 | 16.8                       | 2.5        | 102   | 44                        | 4.8      | 12.0                                  | 8.1                         | 10          |                               |
| 2/28/79 | 19.3                       | 3.5        | 94    | 54                        | 5.3      | 12.4                                  | 8.4                         | 0           |                               |
| 3/1/79  | 18.5                       | 3.5        | 95    | 31                        | 5.2      | 12.8                                  | 8.9                         | 10          |                               |
| 3/2/79  | 21.0                       | 5.5        | 106   | 47                        | 6.7      | 10.3                                  | 7.7                         | 10          |                               |
| 3/3/79  | 23.3                       | 6.0        | 113   | 38                        | 5.6      | 8.6                                   | 7.3                         | 0           |                               |



TABLE A-7  
ISOLATION POND EFFLUENT MONITORING

Isolation Pond 1  
Pond Drawdown 15.75 Inches

Isolation Cycle 7 (3/19-4/24/79)  
Monitoring Class Composite-24 Hour

| DATE    | BOD <sub>5</sub> ,<br>mg/l |            | SUSPENDED SOLIDS,<br>mg/l |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/l | DISSOLVED<br>OXYGEN<br>mg/l | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 ml |
|---------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 4/25/79 | 11.8                       | 4.0        | 41                        | 33       | 2.5                                   | 12.8                        | 9.1         | 0                             |
| 4/26/79 | 9.5                        | 3.0        | 36                        | 30       | 2.5                                   | 11.0                        | 8.2         | 0                             |
| 4/27/79 | 13.8                       | 6.0        | 43                        | 34       | 2.9                                   | 11.4                        | 8.7         | 0                             |
| 5/28/79 | 9.0                        | 2.5        | 44                        | 37       | 2.2                                   | 11.0                        | 8.4         | 0                             |
| 6/29/79 | 7.5                        | 4.5        | 21                        | 19       | 2.7                                   | 11.0                        | 8.5         | 0                             |
| 4/30/79 | 13.5                       | 4.5        | 22                        | 20       | 2.8                                   | 12.0                        | 8.8         | 0                             |

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TABLE A-8

## ISOLATION POND EFFLUENT MONITORING

Isolation Pond 8 (5/15-6/4/79)

Monitoring Class 24 Hour Composite

Pond Drawdown 15.75 Inches

| DATE   | BOD <sub>5</sub> ,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDHAL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|--------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|        | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 6/5/79 | 9.0                        | 3.5        | 47                        | 31       | 3.1                                   | 5.0                         | 8.8         | 0                             |
| 6/6/79 | 8.0                        | 2.5        | 39                        | 26       | 3.2                                   | 7.0                         | 8.5         | 0                             |
| 6/7/79 | 8.5                        | 2.0        | 25                        | 14       | 3.2                                   | 7.3                         | 8.4         | 0                             |
| 6/8/79 | 11.5                       | 2.5        | 53                        | 33       | 4.1                                   | 7.0                         | 7.8         | 0                             |

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TABLE A-9-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                                 |         |                    | Isolation Pond 1 |                    |             |             |                             |     |                                            |
|-------------------|---------------------------------|---------|--------------------|------------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECOND<br>DEPTH  | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
| 5/26/78           | 0                               | 181     | 2.05               | .183             | .305               | 43          | 41          | 10.0                        | 8.0 | 158                                        |
|                   |                                 | 182     | 1.89               | .174             | .305               | 44          | 39          | 10.2                        | 8.0 | 154                                        |
|                   |                                 | 183     | 1.98               | .200             | .305               | 44          | 42          | 10.1                        | 7.9 | 152                                        |
| 5/29/78           | 5                               | 181     | 2.02               | .181             | .305               | 24          | 24          | 2.4                         | 7.6 | 160                                        |
|                   |                                 | 182     | 1.98               | .200             | .305               | 27          | 27          | 2.4                         | 7.7 | 156                                        |
|                   |                                 | 183     | 1.99               | .199             | .305               | 21          | 21          | 2.5                         | 8.0 | 160                                        |
| 6/1/78            | 8                               | 181     | 2.04               | .204             | .305               | 26          | 25          | 4.3                         | 7.4 | 164                                        |
|                   |                                 | 182     | 1.86               | .246             | .305               | 20          | 19          | 5.0                         | 7.5 | 150                                        |
|                   |                                 | 183     | 1.95               | .219             | .305               | 18          | 18          | 4.2                         | 7.4 | 166                                        |
| 6/5/78            | 12                              | 181     | 2.06               | .222             | .305               | 13          | 12          | 4.0                         | 7.6 | 160                                        |
|                   |                                 | 182     | 2.02               | .236             | .305               | 14          | 14          | 4.1                         | 7.5 | 162                                        |
|                   |                                 | 183     | 1.97               | .233             | .305               | 11          | 10          | 4.0                         | 7.6 | 162                                        |

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TABLE A-9-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 1

Isolation Cycle 1

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | COO <sub>2</sub><br>TOTAL<br>mg/L | COO <sub>2</sub><br>FILTERABLE<br>mg/L | COO <sub>2</sub><br>TOTAL<br>mg/L | COO <sub>2</sub><br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|-----------------------------------|----------------------------------------|----------------------|---------------------------|
| 5/26/78 | 0                               | 151     | 13.0                              | 11.9                                   | 67.4                              | 44.2                                   | 56.6                 | 35.2                      |
|         |                                 | 152     | 18.3                              | 13.0                                   | 78.9                              | 44.2                                   | 56.2                 | 47.7                      |
|         |                                 | 153     | 12.8                              | 10.0                                   | 82.7                              | 42.6                                   | 41.1                 | 35.9                      |
| 5/29/78 | 5                               | 151     | 6.5                               | 3.9                                    | 67.8                              | 34.6                                   | 41.5                 | 30.8                      |
|         |                                 | 152     | 7.9                               | 6.1                                    | 83.1                              | 52.2                                   | 44.9                 | 31.2                      |
|         |                                 | 153     | 6.5                               | 3.8                                    | 63.8                              | 36.7                                   | 39.9                 | 27.9                      |
| 6/1/78  | 8                               | 151     | 11.1                              | 3.4                                    | 53.0                              | 45.1                                   | 49.3                 | 28.1                      |
|         |                                 | 152     | 4.4                               | 1.7                                    | 49.0                              | 35.3                                   | 40.1                 | 23.5                      |
|         |                                 | 153     | 6.2                               | 4.7                                    | 45.1                              | 35.3                                   | 36.1                 | 33.1                      |
| 6/5/78  | 12                              | 151     | 7                                 | 2.8                                    | 40.3                              | 27.5                                   | 26.4                 | 20.8                      |
|         |                                 | 152     | 6.5                               | 5.3                                    | 47.7                              | 12.9                                   | 26.0                 | 18.2                      |
|         |                                 | 153     | 11.5                              | 10.5                                   | 38.5                              | 31.2                                   | 27.2                 | 14.9                      |

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TABLE A-9-3  
ISOLATION POND IN SITU MONITORING

Isolation Pond 1

Isolation Cycle 1

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------------------|-----------------|-----------------------------|------------------------|-------------------------------|-----------------------------|
| 5/24/78 | 0                               | 151     | 3.92            | .56             | .136                        | .045            | 4.35                        | 4.2                    | 20                            | 700                         |
|         |                                 | 152     | 3.92            | .56             | .098                        | .03             | 4.35                        | 4.2                    | 10                            |                             |
|         |                                 | 153     | 3.92            | .56             | .082                        | .045            | 4.35                        | 4.2                    | 10                            |                             |
| 5/29/78 | 5                               | 151     | 3.2             | <0.1            | .056                        | .045            | 4.1                         | 3.85                   | 0                             | 400                         |
|         |                                 | 152     | 3.7             | <0.1            | .090                        | .055            | 4.2                         | 3.85                   | 15                            |                             |
|         |                                 | 153     | 2.7             | <0.1            | .063                        | .055            | 4.0                         | 3.75                   | 28                            |                             |
| 6/1/78  | 8                               | 151     | 3.0             | <0.1            | .023                        | .24             | 4.3                         | 4.3                    | 0                             | 290                         |
|         |                                 | 152     | 2.6             | <0.1            | .020                        | .28             | 4.2                         | 4.1                    | 0                             |                             |
|         |                                 | 153     | 2.9             | <0.1            | .021                        | .025            | 4.1                         | 4.1                    | 0                             |                             |
| 6/5/78  | 12                              | 151     | 2.8             | <0.1            | .036                        | .16             | 4.1                         | 4.1                    | 0                             | 275                         |
|         |                                 | 152     | 2.8             | <0.1            | .038                        | .15             | 4.1                         | 4.0                    | 0                             |                             |
|         |                                 | 153     | 2.9             | <0.1            | .036                        | .15             | 4.2                         | 4.1                    | 15                            |                             |

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TABLE A-9-4  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 1 |                      |         |                                  |      |      |      |      |      |                           |      |      |      |      |      |
|------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE             | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                  |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 5/24/78          | 0                    | IS1     | 10.0                             | 8.2  | 5.1  | 2.0  | 0.4  | 0.0  | 28                        | 28   | 27   | 27   | 24   | 23   |
|                  |                      | IS2     | 10.2                             | 8.3  | 4.8  | 1.9  | 0.3  | 0.0  | 28                        | 28   | 27.5 | 27   | 24   | 23   |
|                  |                      | IS3     | 10.1                             | 9.8  | 9.3  | 4.7  | 0.3  | 0.0  | 28                        | 28   | 28   | 27   | 25   | 22   |
| 5/29/78          | 5                    | IS1     | 2.4                              | 2.3  | 2.0  | 1.5  | 0.5  | 0.1  | 27                        | 27   | 27   | 26   | 25   | 24   |
|                  |                      | IS2     | 2.4                              | 2.2  | 2.1  | 1.7  | 0.4  | 0.1  | 27                        | 27   | 27   | 26   | 25   | 24   |
|                  |                      | IS3     | 2.5                              | 2.3  | 2.1  | 1.9  | 0.4  | 0.0  | 27                        | 27   | 27   | 26   | 25   | 24   |
| 6/1/78           | 8                    | IS1     | 4.3                              | 3.7  | 3.3  | 1.8  | 0.2  | 0.0  | 28                        | 27.8 | 27.8 | 27.8 | 26.5 | 24.6 |
|                  |                      | IS2     | 5.0                              | 4.6  | 3.0  | 2.0  | 0.1  | 0.0  | 28                        | 27.9 | 27.8 | 27.5 | 26.8 | 24.4 |
|                  |                      | IS3     | 4.2                              | 3.5  | 2.0  | 1.2  | 0.0  | 0.0  | 28                        | 27.9 | 27.8 | 27.5 | 26.8 | 24.4 |
| 6/5/78           | 12                   | IS1     | 4.0                              | 3.9  | 3.7  | 1.7  | 0.3  | 0.0  | 28                        | 27.5 | 27   | 26.4 | 25   | 24.4 |
|                  |                      | IS2     | 4.1                              | 3.8  | 3.5  | 1.8  | 0.4  | 0.0  | 27.5                      | 27   | 27   | 26.2 | 25   | 24.5 |
|                  |                      | IS3     | 4.0                              | 3.7  | 3.4  | 1.6  | 0.2  | 0.0  | 28                        | 27.5 | 27   | 26.2 | 25.5 | 24.4 |

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TABLE A-10-1  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 1  |                                 |         |                    |                 |                    |             |             |                             |                                            |
|-------------------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|--------------------------------------------|
| Isolation Cycle 1 |                                 |         |                    |                 |                    |             |             |                             |                                            |
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
| 6/8/78            | 15                              | IS1     | 1.87               | .25             | .305               | 16          | 16          | 1.5                         | 168                                        |
|                   |                                 | IS2     | 1.89               | .26             | .305               | 19          | 18          | 1.7                         | 166                                        |
|                   |                                 | IS3     | 1.89               | .25             | .305               | 16          | 15          | 1.4                         | 168                                        |
| 6/15/78           | 22                              | IS1     | 1.87               | .23             | .305               | 21          | 21          | 8.4                         | 174                                        |
|                   |                                 | IS2     | 1.89               | .23             | .305               | 21          | 19          | 8.6                         | 174                                        |
|                   |                                 | IS3     | 1.89               | .24             | .305               | 22          | 22          | 8.5                         | 168                                        |
| 6/21/78           | 28                              | IS1     | 1.87               | .26             | .305               | 18          | 17          | 9.0                         | 184                                        |
|                   |                                 | IS2     | 1.89               | .26             | .305               | 18          | 18          | 9.2                         | 186                                        |
|                   |                                 | IS3     | 1.88               | .26             | .305               | 18          | 17          | 9.1                         | 184                                        |
| 6/21/78           | 28                              | IS1     | ---                | ---             | .915               | 45          | ---         | ---                         | ---                                        |
|                   |                                 | IS2     | ---                | ---             | .915               | 31          | ---         | ---                         | ---                                        |
|                   |                                 | IS3     | ---                | ---             | .915               | 38          | ---         | ---                         | ---                                        |

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TABLE A-10-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                           |         | Isolation Pond 1            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 6/8/78            | 15                        | IS1     | 4.5                         | 3.5                              | 63.6           | 50.4                | 29.4           | 20.0                |
|                   |                           | IS2     | 6.0                         | 2.0                              | 64.0           | 51.8                | 26.5           | 17.7                |
|                   |                           | IS3     | 4.8                         | 3.3                              | 63.1           | 50.1                | 33.2           | 16.9                |
| 6/15/78           | 22                        | IS1     | 5.5                         | 2.0                              | 70.5           | 52.0                | 21.6           | 14.9                |
|                   |                           | IS2     | 6.0                         | 4.0                              | 62.3           | 49.5                | 25.2           | 14.0                |
|                   |                           | IS3     | 5.0                         | 3.0                              | 62.3           | 46.1                | 25.7           | 15.3                |
| 6/21/78           | 28                        | IS1     | 3.5                         | 1.5                              | 54.3           | 42.4                | 12.9           | 7.9                 |
|                   |                           | IS2     | 3.8                         | 1.0                              | 60.0           | 45.2                | 12.9           | 8.2                 |
|                   |                           | IS3     | 1.8                         | 1.8                              | 63.8           | 47.6                | 14.7           | 7.9                 |
| 6/21/78           | 28                        | IS1     | 14.3                        | ---                              | ---            | ---                 | 20.3           | ---                 |
|                   |                           | IS2     | 7.5                         | ---                              | ---            | ---                 | 23.5           | ---                 |
|                   |                           | IS3     | 3.5                         | ---                              | ---            | ---                 | 25.2           | ---                 |

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TABLE A-10-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                                 | Isolation Pond 1 |                 |                 |                  |      |                 |               |                    |                               |                             |
|-------------------|---------------------------------|------------------|-----------------|-----------------|------------------|------|-----------------|---------------|--------------------|-------------------------------|-----------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION          | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>mg/L |      | NITRATE<br>mg/L | TOTAL<br>mg/L | PHOSPHORUS<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
| 6/8/78            | 15                              | IS1              | 2.35            | .45             | .073             | .073 | .15             | 4.0           | 4.0                | 0                             | ---                         |
|                   |                                 | IS2              | 2.35            | .45             | .070             | .070 | .13             | 4.0           | 4.0                | 0                             | ---                         |
|                   |                                 | IS3              | 2.2             | .50             | .073             | .073 | .18             | 4.1           | 4.0                | 0                             | ---                         |
| 6/15/78           | 22                              | IS1              | 2.8             | <0.1            | .070             | .070 | .22             | 4.3           | 4.1                | 0                             | ---                         |
|                   |                                 | IS2              | 2.8             | <0.1            | .073             | .073 | .21             | 4.3           | 4.2                | 0                             | ---                         |
|                   |                                 | IS3              | 2.7             | <0.1            | .070             | .070 | .21             | 4.1           | 4.0                | 0                             | ---                         |
| 6/21/78           | 28                              | IS1              | 2.1             | <0.1            | .026             | .026 | .17             | 3.85          | 3.75               | 0                             | ---                         |
|                   |                                 | IS2              | 2.2             | <0.1            | .026             | .026 | .18             | 3.85          | 3.75               | 0                             | ---                         |
|                   |                                 | IS3              | 2.1             | <0.1            | .026             | .026 | .19             | 4.00          | 3.85               | 0                             | ---                         |
| 6/21/78           | 28                              | IS1              | 3.2             | <0.1            | ---              | ---  | ---             | ---           | ---                | ---                           | ---                         |
|                   |                                 | IS2              | 3.6             | <0.1            | ---              | ---  | ---             | ---           | ---                | ---                           | ---                         |
|                   |                                 | IS3              | 3.7             | <0.1            | ---              | ---  | ---             | ---           | ---                | ---                           | ---                         |

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TABLE A-10-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                      |         | Isolation Pond                   |      |      |      |      |      |                           |      |      |      |      |      |
|-----------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE            | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                 |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 6/8/78          | 15                   | IS1     | 1.5                              | 1.4  | 1.1  | .7   | .3   | .1   | 27                        | 27   | 27   | 27   | 26.5 | 26.2 |
|                 |                      | IS2     | 1.7                              | 1.5  | 1.2  | .9   | .2   | 0    | 27                        | 27   | 27   | 26.9 | 26.5 | 26.1 |
|                 |                      | IS3     | 1.4                              | 1.2  | 1.0  | .7   | .2   | 0    | 27                        | 27   | 27   | 26.9 | 26.5 | 26.4 |
| 6/15/78         | 22                   | IS1     | 8.4                              | 6.0  | 5.5  | 4.0  | .5   | .2   | 29                        | 28   | 27.5 | 29   | 27   | 26   |
|                 |                      | IS2     | 8.6                              | 6.2  | 5.2  | 4.0  | .7   | .3   | 29                        | 28.5 | 28   | 27   | 27   | 25.5 |
|                 |                      | IS3     | 8.5                              | 6.5  | 5.1  | 4.1  | .7   | .4   | 28.5                      | 28   | 27.7 | 27   | 26.8 | 26.1 |
| 6/21/78         | 28                   | IS1     | 9.0                              | 8.7  | 2.2  | .7   | .3   | .2   | 30                        | 29.5 | 28   | 26.7 | 25.9 | 25   |
|                 |                      | IS2     | 9.2                              | 8.9  | 2.1  | .5   | .3   | .1   | 30.1                      | 29.6 | 28   | 27   | 26   | 25.4 |
|                 |                      | IS3     | 9.1                              | 9.0  | 2.3  | .5   | .3   | .1   | 30                        | 29.6 | 27.9 | 26.9 | 26   | 25   |

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TABLE A-11-1  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 1 |                           |         |                 |              |                 |          |          |                       |     |                                      |
|------------------|---------------------------|---------|-----------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE             | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 7/17/78          | 0                         | IS1     | 1.98            | .153         | .305            | 105*     | 91       | 11.8                  | 9.0 | 194                                  |
|                  |                           | IS2     | 1.98            | .185         | .305            | 36       | 35       | 12.0                  | 9.1 | 196                                  |
|                  |                           | IS3     | 1.98            | .169         | .305            | 37       | 35       | 11.1                  | 9.0 | 194                                  |
| 7/18/78          | 2                         | IS1     | 1.98            | .123         | .305            | 44       | 36       | 11.2                  | 9.2 | 224                                  |
|                  |                           | IS2     | 1.83            | .150         | .305            | 42       | 35       | 12.8                  | 9.2 | 222                                  |
|                  |                           | IS3     | 1.83            | .150         | .305            | 35       | 26       | 14.4                  | 9.1 | 220                                  |
| 7/24/78          | 7                         | IS1     | 1.83            | .133         | .305            | 32       | 30       | 10.0                  | 8.1 | 238                                  |
|                  |                           | IS2     | 1.83            | .167         | .305            | 35       | 33       | 10.1                  | 8.3 | 242                                  |
|                  |                           | IS3     | 1.89            | .161         | .305            | 51       | 48       | 9.6                   | 8.1 | 240                                  |
| 7/26/78          | 9                         | IS1     | 1.86            | .180         | .305            | 25       | 20       | 8.3                   | 9.2 | 214                                  |
|                  |                           | IS2     | 1.89            | .161         | .305            | 34       | 30       | 9.0                   | 9.2 | 214                                  |
|                  |                           | IS3     | 1.83            | .167         | .305            | 44       | 37       | 12.0                  | 9.3 | 216                                  |

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TABLE A-11-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 1

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 7/17/78 | 0                               | IS1     | 9.8                               | 5.5                                    | 104                  | 73.6                      | 54.9                 | 45.0                      |
|         |                                 | IS2     | 7.8                               | 7.3                                    | 109                  | 69.5                      | 40.6                 | 22.4                      |
|         |                                 | IS3     | 7.0                               | 7.0                                    | 106                  | 76.8                      | 34.3                 | 22.7                      |
| 7/18/78 | 2                               | IS1     | 12.0                              | 4.8                                    | 126.8                | 69.3                      | 52.7                 | 32.8                      |
|         |                                 | IS2     | 13.5                              | 6.0                                    | 116.7                | 75.7                      | 49.8                 | 43.5                      |
|         |                                 | IS3     | 10.3                              | 3.5                                    | 121.3                | 76.6                      | 68.5                 | 42.2                      |
| 7/24/78 | 7                               | IS1     | 11.5                              | 10.0                                   | 108.5                | 78.8                      | 47.0                 | 34.3                      |
|         |                                 | IS2     | 14.3                              | 4.5                                    | 105.3                | 77.6                      | 60.0                 | 47.2                      |
|         |                                 | IS3     | 19.3                              | 4.0                                    | 90.3                 | 66.9                      | 55.1                 | 34.0                      |
| 7/26/78 | 9                               | IS1     | 14.5                              | 2.5                                    | 103.4                | 61.0                      | 50.3                 | 39.7                      |
|         |                                 | IS2     | 16.5                              | 1.3                                    | 99.0                 | 62.2                      | 42.0                 | 24.7                      |
|         |                                 | IS3     | 21.5                              | 3.0                                    | 136.6                | 73.3                      | 57.9                 | 35.6                      |

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TABLE A-11-3  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 1  |                           |         |              |              |          |              |              |            |            |                         |                       |
|-------------------|---------------------------|---------|--------------|--------------|----------|--------------|--------------|------------|------------|-------------------------|-----------------------|
| Isolation Cycle 2 |                           |         |              |              |          |              |              |            |            |                         |                       |
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L | AMMONIA mg/L | NITROGEN |              | NITRATE mg/L | PHOSPHORUS |            | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
| 7/17/78           | 0                         | IS1     | 4.1          | <0.1         |          | NITRITE mg/L | .21          | TOTAL mg/L | ORTHO mg/L | 0                       | 600                   |
|                   |                           | IS2     | 4.5          | <0.1         | .017     | .015         | .22          | 4.75       | 4.3        | 0                       |                       |
|                   |                           | IS3     | 4.0          | <0.1         | .017     | .015         | .21          | 5.00       | 4.3        | 0                       |                       |
| 7/18/78           | 2                         | IS1     | 4.8          | <0.1         | .021     | .015         | .26          | 4.65       | 4.3        | 0                       | 400                   |
|                   |                           | IS2     | 4.8          | <0.1         | .015     | .015         | .22          | 4.65       | 4.3        | 0                       |                       |
|                   |                           | IS3     | 4.4          | <0.1         | .013     | .013         | .22          | 4.55       | 4.3        | 0                       |                       |
| 7/24/78           | 7                         | IS1     | 5.0          | <0.1         | .021     | .020         | .165         | 4.1        | 3.5        | 0                       | 825                   |
|                   |                           | IS2     | 4.8          | <0.1         | .020     | .020         | .140         | 4.1        | 3.45       | 0                       |                       |
|                   |                           | IS3     | 6.2          | <0.1         | .010     | .010         | .125         | 4.75       | 4.3        | 0                       |                       |
| 7/26/78           | 9                         | IS1     | 4.3          | <0.1         | .011     | .010         | .12          | 4.65       | 4.2        | 0                       | 550                   |
|                   |                           | IS2     | 5.3          | <0.1         | .010     | .010         | .12          | 4.65       | 4.15       | 0                       |                       |
|                   |                           | IS3     | 8.1          | <0.1         | .015     | .015         | .41          | 4.4        | 4.2        | 0                       |                       |

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TABLE A-11-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 7/17/78           | 0                    | IS1     | 11.8                             | 10.8 | 8.0  | 5.8  | 1.9  | 0    | 30                        | 29   | 29   | 29   | 29   | 29   |
|                   |                      | IS2     | 12.0                             | 9.2  | 7.2  | 4.5  | .6   | 0    | 30                        | 29   | 29   | 29   | 29   | 29   |
|                   |                      | IS3     | 11.1                             | 7.8  | 6.9  | 5.2  | 1.0  | 0    | 30                        | 29   | 29   | 29   | 29   | 29   |
| 7/18/78           | 2                    | IS1     | 11.2                             | 11.2 | 10.9 | 2.9  | .3   | .1   | 30                        | 30   | 30   | 29.5 | 29   | 29   |
|                   |                      | IS2     | 12.8                             | 11.9 | 9.9  | 1.05 | .2   | .1   | 30                        | 30   | 30   | 30   | 29.5 | 29   |
|                   |                      | IS3     | 14.4                             | 11.0 | 9.2  | 2.3  | .8   | .2   | 30                        | 30   | 29.5 | 29   | 29   | 28.5 |
| 7/24/78           | 7                    | IS1     | 10.0                             | 9.4  | 8.1  | 2.2  | .3   | 0    | 30                        | 29.5 | 29   | 28.5 | 28   | 28   |
|                   |                      | IS2     | 10.1                             | 9.7  | 3.5  | 2.5  | .1   | 0    | 30                        | 30   | 29.5 | 29   | 29   | 29   |
|                   |                      | IS3     | 9.6                              | 8.3  | 4.0  | 2.7  | .3   | 0    | 31                        | 30   | 29.5 | 29   | 29   | 29   |
| 7/26/78           | 9                    | IS1     | 8.3                              | 7.8  | 4.0  | .4   | .3   | .1   | 30                        | 30   | 29.5 | 29   | 28.5 | 28   |
|                   |                      | IS2     | 9.0                              | 8.6  | 7.6  | 5.6  | .3   | .1   | 30.5                      | 30   | 30   | 30   | 29.5 | 29   |
|                   |                      | IS3     | 12.0                             | 11.8 | 10.8 | 9.2  | .3   | .1   | 31                        | 30   | 29.5 | 29   | 28.5 | 28   |

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TABLE A-11-5

ISOLATION POND IN SITU MONITORING

| Isolation Pond 1  |                                 |         |                    |                 |                    |             |             |                             |                                            |
|-------------------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|--------------------------------------------|
| Isolation Cycle 2 |                                 |         |                    |                 |                    |             |             |                             |                                            |
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
| 8/2/78            | 16                              | IS1     | 1.92               | .214            | .305               | 23          | 22          | 8.9                         | 208                                        |
|                   |                                 | IS2     | 1.86               | .213            | .305               | 19          | 16          | 8.9                         | 212                                        |
|                   |                                 | IS3     | 1.89               | .210            | .305               | 21          | 20          | 9.1                         | 214                                        |
| 8/9/78            | 23                              | IS1     | 1.95               | .219            | .305               | 17          | 16          | 4.0                         | 270                                        |
|                   |                                 | IS2     | 1.37               | .237            | .305               | 16          | 14          | 4.5                         | 264                                        |
|                   |                                 | IS3     | 1.74               | .246            | .305               | 20          | 19          | 4.8                         | 266                                        |
| 8/9/78            | 23                              | IS1-3   | ---                | ---             | .915               | 26          | ---         | ---                         | ---                                        |
|                   |                                 | IS2-3   | ---                | ---             | .915               | 22          | ---         | ---                         | ---                                        |
|                   |                                 | IS3-3   | ---                | ---             | .915               | 23          | ---         | ---                         | ---                                        |

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TABLE A-11-6  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                           | Isolation Pond 1 |                             |                                  |                |                     |                |                     |
|-------------------|---------------------------|------------------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION          | BOD <sub>5</sub> TOTAL mg/ℓ | BOD <sub>5</sub> FILTERABLE mg/ℓ | COD TOTAL mg/ℓ | COD FILTERABLE mg/ℓ | TOC TOTAL mg/ℓ | TOC FILTERABLE mg/ℓ |
| 8/2/78            | 16                        | IS1              | 6.3                         | 3.8                              | 78.4           | 56.3                | 30.1           | 27.5                |
|                   |                           | IS2              | 7.0                         | 2.5                              | 77.6           | 56.6                | 29.3           | 21.5                |
|                   |                           | IS3              | 7.3                         | 2.3                              | 73.3           | 51.6                | 32.0           | 23.8                |
| 8/9/78            | 23                        | IS1              | 4.5                         | 1.0                              | 83.3           | 72.0                | 16.1           | 10.6                |
|                   |                           | IS2              | 4.3                         | 1.0                              | 85.9           | 79.9                | 14.7           | 4.7                 |
|                   |                           | IS3              | 4.3                         | 1.5                              | 82.5           | 74.6                | 16.0           | 11.9                |
| 8/9/78            | 23                        | IS1-3            | 4.8                         | -----                            | -----          | -----               | 20.5           | -----               |
|                   |                           | IS2-3            | 7.8                         | -----                            | -----          | -----               | 15.2           | -----               |
|                   |                           | IS3-3            | 6.3                         | -----                            | -----          | -----               | 17.9           | -----               |

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TABLE A-11-7  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                                 | Isolation Pond 1 |                 |                 |          |      |                 |               |                    |                               |                             |
|-------------------|---------------------------------|------------------|-----------------|-----------------|----------|------|-----------------|---------------|--------------------|-------------------------------|-----------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION          | ORGANIC<br>mg/l | AMMONIA<br>mg/l | NITROGEN |      | NITRATE<br>mg/l | TOTAL<br>mg/l | PHOSPHORUS<br>mg/l | FECAL<br>COLIFORM<br>#/100 ml | LIGHT<br>INTENSITY<br>ft-cd |
| 8/2/78            | 16                              | IS1              | 2.75            | .39             | .013     | .013 | .10             | 4.1           | 3.9                | 0                             | 410                         |
|                   |                                 | IS2              | 3.42            | .50             | .010     | .010 | .10             | 3.5           | 3.4                | 0                             |                             |
|                   |                                 | IS3              | 3.13            | .45             | .010     | .010 | .08             | 4.4           | 4.1                | 0                             |                             |
| 8/9/78            | 23                              | IS1              | 3.7             | <0.1            | .006     | .006 | .14             | 4.0           | 3.9                | 0                             | 62                          |
|                   |                                 | IS2              | 3.7             | <0.1            | .006     | .006 | .14             | 4.2           | 4.0                | 0                             |                             |
|                   |                                 | IS3              | 3.7             | <0.1            | .006     | .006 | .14             | 4.1           | 3.9                | 0                             |                             |
| 8/9/78            | 23                              | IS1-3            | 3.8             | <0.1            |          |      |                 |               |                    |                               |                             |
|                   |                                 | IS2-3            | 3.9             | <0.1            |          |      |                 |               |                    |                               |                             |
|                   |                                 | IS3-3            | 3.8             | <0.1            |          |      |                 |               |                    |                               |                             |

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TABLE A-11-8  
ISOLATION FOND IN SITU MONITORING

| Isolation Cycle 2 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 8/2/78            | 16                   | 151     | 8.9                              | 8.7  | 8.3  | 6.4  | .4   | .2   | 29.9                      | 29.9 | 29.8 | 29.6 | 29   | 28.8 |
|                   |                      | 152     | 8.9                              | 8.8  | 7.8  | 4.3  | .3   | .1   | 29.8                      | 29.7 | 29.6 | 29.5 | 29   | 28.7 |
|                   |                      | 153     | 9.1                              | 8.9  | 8.5  | 7.8  | .9   | .2   | 29.6                      | 29.6 | 29.5 | 29.4 | 29.1 | 28.8 |
| 8/9/78            | 23                   | 151     | 4.0                              | 3.8  | 3.6  | 3.5  | 3.5  | 3.0  | 27.2                      | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 |
|                   |                      | 152     | 4.5                              | 4.4  | 4.4  | 4.5  | 4.2  | 3.8  | 27.2                      | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 |
|                   |                      | 153     | 4.8                              | 4.7  | 4.6  | 4.5  | 4.4  | 4.0  | 27                        | 27   | 27   | 27   | 27   | 27   |

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TABLE A-12-1  
ISOLATION POND IN SITU MONITORING

Isolation Pond 1

Isolation Cycle 3

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH, m | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|--------------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 8/30/78 | 0                               | 1S1     | 1.96               | .169               | .305               | 58          | 41          | 5.2                         | 7.8 | 232                                        |
|         |                                 | 1S2     | 1.95               | .156               | .305               | 51          | 38          | 5.5                         | 8.1 | 242                                        |
|         |                                 | 1S3     | 1.95               | .172               | .305               | 56          | 37          | 5.6                         | 7.5 | 226                                        |
| 9/6/78  | 7                               | 1S1     | 1.89               | .161               | .305               | 40          | 40          | 11.9                        | 9.0 | 226                                        |
|         |                                 | 1S2     | 1.89               | .161               | .305               | 40          | 39          | 11.8                        | 9.1 | 230                                        |
|         |                                 | 1S3     | 1.89               | .161               | .305               | 56          | 52          | 12.0                        | 9.1 | 230                                        |
| 9/11/78 | 12                              | 1S1     | 1.97               | .171               | .305               | 39          | 37          | 5.9                         | 8.8 | 228                                        |
|         |                                 | 1S2     | 1.92               | .206               | .305               | 33          | 32          | 3.9                         | 8.8 | 228                                        |
|         |                                 | 1S3     | 1.91               | .176               | .305               | 40          | 38          | 1.8                         | 8.8 | 228                                        |
|         | 15                              | 1S1     | 1.89               | .210               | .305               | 38          | 37          | 2.1                         | 8.6 | 232                                        |
|         |                                 | 1S2     | 1.74               | .211               | .305               | 39          | 38          | 3.2                         | 8.6 | 232                                        |
|         |                                 | 1S3     | 1.74               | .193               | .305               | 45          | 41          | 3.8                         | 8.6 | 234                                        |

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TABLE A-12-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 1            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 8/30/78           | 0                         | IS1     | 12.0                        | 2.5                              | 103.9          | 72.0                | 31.7           | 21.8                |
|                   |                           | IS2     | 12.3                        | 3.8                              | 98.5           | 67.5                | 39.1           | 24.2                |
|                   |                           | IS3     | 14.0                        | 1.5                              | 94.8           | 65.7                | 39.2           | 21.3                |
| 9/6/78            | 7                         | IS1     | 18.0                        | 2.5                              | 134.4          | 80.6                | 38.4           | 14.9                |
|                   |                           | IS2     | 12.5                        | 2.3                              | 123.6          | 83.3                | 26.8           | 16.6                |
|                   |                           | IS3     | 17.5                        | 3.5                              | 152.3          | 82.4                | 33.9           | 19.8                |
| 9/11/78           | 12                        | IS1     | 13.5                        | 5.3                              | 95.2           | 60.4                | 41.2           | 22.5                |
|                   |                           | IS2     | 18.0                        | 5.3                              | 122.9          | 70.7                | 35.0           | 23.6                |
|                   |                           | IS3     | 16.8                        | 6.0                              | 126.0          | 72.7                | 40.3           | 24.0                |
| 9/14/78           | 15                        | IS1     | 11.5                        | 6.3                              | 136.5          | 92.2                | 38.4           | 25.5                |
|                   |                           | IS2     | 11.3                        | 6.0                              | 137.4          | 92.2                | 41.3           | 22.5                |
|                   |                           | IS3     | 11.3                        | 6.0                              | 122.0          | 97.6                | 37.7           | 24.8                |

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TABLE A-12-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | Isolation Pond |              |              |          |              |              |            |     |                         |                       |
|-----------------|---------------------------|----------------|--------------|--------------|----------|--------------|--------------|------------|-----|-------------------------|-----------------------|
|                 |                           | 1              |              |              |          |              |              |            |     |                         |                       |
| DATE            | CUMULATIVE ISOLATION DAYS | STATION        | ORGANIC mg/L | AMMONIA mg/L | NITROGEN |              | NITRATE mg/L | PHOSPHORUS |     | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
| 8/30/78         | 0                         | IS1            | 4.8          | 0.6          |          | NITRITE mg/L | .20          | 4.6        | 4.4 | 25                      | 460                   |
|                 |                           | IS2            | 5.1          | 0.4          | .021     | .17          | 4.7          | 4.5        | 23  |                         |                       |
|                 |                           | IS3            | 5.3          | 0.4          | .023     | .20          | 4.7          | 4.5        | 10  |                         |                       |
| 9/6/78          | 7                         | IS1            | 4.8          | <0.1         | .012     | .14          | 4.7          | 4.5        | 0   | 400                     |                       |
|                 |                           | IS2            | 4.4          | <0.1         | .013     | .14          | 4.7          | 4.5        | 0   |                         |                       |
|                 |                           | IS3            | 5.0          | <0.1         | .012     | .22          | 4.7          | 4.6        | 0   |                         |                       |
| 9/11/78         | 12                        | IS1            | 4.4          | <0.1         | .013     | .18          | 4.7          | 4.5        | 0   | 200                     |                       |
|                 |                           | IS2            | 4.4          | <0.1         | .015     | .17          | 4.8          | 4.4        | 0   |                         |                       |
|                 |                           | IS3            | 4.7          | <0.1         | .016     | .19          | 5.2          | 4.5        | 0   |                         |                       |
| 9/14/78         | 15                        | IS1            | 4.8          | <0.1         | .006     | .22          | 4.2          | 4.0        | 0   | 400                     |                       |
|                 |                           | IS2            | 4.9          | <0.1         | <.004    | .25          | 4.0          | 3.6        | 0   |                         |                       |
|                 |                           | IS3            | 4.9          | <0.1         | <.004    | .25          | 4.1          | 3.8        | 0   |                         |                       |

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ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 8/30/78           | 0                    | IS1     | 5.2                              | 4.8  | 4.5  | 4.3  | 4.1  | 3.5  | 26.3                      | 26.3 | 26.4 | 26.5 | 26.5 | 26.6 |
|                   |                      | IS2     | 5.5                              | 4.8  | 4.5  | 4.3  | 4.2  | 4.1  | 26.3                      | 26.4 | 26.4 | 26.5 | 26.5 | 26.6 |
|                   |                      | IS3     | 5.6                              | 5.0  | 4.7  | 4.4  | 4.2  | 4.1  | 26.3                      | 26.4 | 26.4 | 26.4 | 26.5 | 26.5 |
| 9/6/78            | 7                    | IS1     | 11.9                             | 9.6  | 8.0  | 1.6  | .4   | .2   | 27.7                      | 27.5 | 27.4 | 27   | 26.7 | 26.4 |
|                   |                      | IS2     | 11.8                             | 9.9  | 8.8  | 1.6  | .5   | .3   | 27.7                      | 27.6 | 27.4 | 27   | 26.7 | 26.3 |
|                   |                      | IS3     | 12.0                             | 8.4  | 7.1  | 1.7  | .6   | .3   | 27.6                      | 27.5 | 27.4 | 27   | 26.8 | 26.4 |
| 9/11/78           | 12                   | IS1     | 5.9                              | 5.8  | 5.7  | 5.5  | 4.5  | .4   | 27.5                      | 27.5 | 27.5 | 27.5 | 27   | 26   |
|                   |                      | IS2     | 3.9                              | 3.8  | 3.7  | 3.0  | .2   | 0    | 27                        | 27   | 27   | 27   | 27   | 26   |
|                   |                      | IS3     | 1.8                              | 1.7  | .8   | .3   | .1   | 0    | 27                        | 27   | 27   | 27   | 26   | 26   |
| 9/14/78           | 15                   | IS1     | 2.1                              | 1.7  | 1.5  | 1.3  | .3   | .1   | 27                        | 27   | 27   | 27   | 27   | 26.5 |
|                   |                      | IS2     | 3.2                              | 2.6  | 2.2  | 1.6  | .3   | 0    | 27                        | 27   | 27   | 27   | 27   | 26.5 |
|                   |                      | IS3     | 3.8                              | 2.7  | .8   | .4   | .1   | 0    | 27                        | 27   | 27   | 27   | 27   | 27   |

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TABLE A-12-5  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 1 |              |                 |          |          |                       |     |                                      |
|-------------------|---------------------------|---------|------------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ROTTOM DEPTH, m  | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 9/18/78           | 19                        | IS1     | 1.98             | .154         | .305            | 49       | 48       | 12.0                  | 9.1 | 232                                  |
|                   |                           | IS2     | 1.89             | .161         | .305            | 55       | 53       | 11.8                  | 9.2 | 240                                  |
|                   |                           | IS3     | 1.86             | .164         | .305            | 52       | 50       | 12.2                  | 9.2 | 238                                  |
| 9/25/78           | 26                        | IS1     | 1.83             | .200         | .305            | 28       | 27       | 1.8                   | 8.6 | 232                                  |
|                   |                           | IS2     | 1.71             | .196         | .305            | 29       | 28       | 2.9                   | 8.6 | 236                                  |
|                   |                           | IS3     | 1.80             | .203         | .305            | 31       | 30       | 4.1                   | 8.7 | 240                                  |
| 9/25/78           | 26                        | IS1-3   | ----             | ----         | .915            | 37       | --       | ----                  | 8.7 | ----                                 |
|                   |                           | IS2-3   | ----             | ----         | .915            | 33       | --       | ----                  | 8.7 | ----                                 |
|                   |                           | IS3-3   | ----             | ----         | .915            | 30       | --       | ----                  | 8.7 | ----                                 |

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TABLE A-12-6  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 1            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 9/18/78           | 19                        | IS1     | 15.8                        | 8.0                              | 151.8          | 86.5                | 33.2           | 17.9                |
|                   |                           | IS2     | 20.5                        | 4.3                              | 144.4          | 80.0                | 38.4           | 25.3                |
|                   |                           | IS3     | 19.0                        | 3.3                              | 148.1          | 91.1                | 37.3           | 14.2                |
| 9/25/78           | 26                        | IS1     | 19.0                        | 7.3                              | 106.3          | 51.2                | 36.9           | 23.9                |
|                   |                           | IS2     | 18.5                        | 9.5                              | 103.3          | 68.9                | 35.2           | 25.8                |
|                   |                           | IS3     | 17.0                        | 9.5                              | 93.5           | 67.9                | 39.0           | 27.3                |
| 9/25/78           | 26                        | IS1-3   | 27.3                        | ---                              | ---            | ---                 | 40.5           | ---                 |
|                   |                           | IS2-3   | 27.5                        | ---                              | ---            | ---                 | 41.5           | ---                 |
|                   |                           | IS3-3   | 28.0                        | ---                              | ---            | ---                 | 43.3           | ---                 |

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TABLE A-12-7  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 1 |              |          |     |              |            |     |                         |                       |
|-------------------|---------------------------|---------|------------------|--------------|----------|-----|--------------|------------|-----|-------------------------|-----------------------|
| # DATE            | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L     | AMMONIA mg/L | NITROGEN |     | NITRATE mg/L | PHOSPHORUS |     | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
| 9/18/78           | 19                        | IS1     | 4.8              | <0.1         | .016     |     | .20          | 4.9        | 4.3 | 0                       | 650                   |
|                   |                           | IS2     | 4.9              | <0.1         | .016     |     | .20          | 4.6        | 4.2 | 0                       |                       |
|                   |                           | IS3     | 4.9              | <0.1         | .016     |     | .21          | 4.9        | 4.3 | 0                       |                       |
| 9/25/78           | 26                        | IS1     | 4.9              | <0.1         | .021     |     | .20          | 4.9        | 4.5 | 0                       | 175                   |
|                   |                           | IS2     | 5.0              | <0.1         | .013     |     | .20          | 5.1        | 4.6 | 0                       |                       |
|                   |                           | IS3     | 4.9              | <0.1         | .013     |     | .22          | 5.0        | 4.5 | 0                       |                       |
| 9/25/78           | 26                        | IS1-3   | 4.8              | ---          | ---      | --- | ---          | ---        | --- | ---                     | ---                   |
|                   |                           | IS2-3   | 4.8              | ---          | ---      | --- | ---          | ---        | --- | ---                     | ---                   |
|                   |                           | IS3-3   | 4.8              | ---          | ---      | --- | ---          | ---        | --- | ---                     | ---                   |

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TABLE A-12-8  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                      |         | 3                        |      |      | Isolation Pond |      |      | 1                   |      |      |      |      |      |
|-----------------|----------------------|---------|--------------------------|------|------|----------------|------|------|---------------------|------|------|------|------|------|
| DATE            | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE |      |      |                |      |      | TEMPERATURE PROFILE |      |      |      |      |      |
|                 |                      |         | mg/l                     |      |      |                |      |      | °C                  |      |      |      |      |      |
|                 |                      |         | 1 Ft                     | 2 Ft | 3 Ft | 4 Ft           | 5 Ft | 6 Ft | 1 Ft                | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 9/18/78         | 19                   | IS1     | 12                       | 11.8 | 11.8 | 1.2            | .2   | .1   | 28                  | 28   | 27   | 27   | 27   | 26   |
|                 |                      | IS2     | 11.8                     | 11.8 | 9.2  | .8             | .2   | .1   | 28                  | 28   | 28   | 27   | 27   | 26   |
|                 |                      | IS3     | 12.2                     | 12.1 | 6.1  | 3.8            | .3   | .1   | 28                  | 28   | 28   | 27   | 27   | 26   |
| 9/25/78         | 26                   | IS1     | 1.8                      | 1.5  | 1.0  | .9             | 1.1  | .9   | 26                  | 26   | 26   | 26   | 26   | 26   |
|                 |                      | IS2     | 2.9                      | 1.7  | .9   | .8             | 1.1  | --   | 26                  | 26   | 26   | 26   | 26   | --   |
|                 |                      | IS3     | 4.1                      | 2.1  | 1.7  | 1.7            | 1.5  | 1.5  | 26                  | 26   | 26   | 26   | 26   | 26   |

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TABLE A-13-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 4 |                           | Isolation Pond 1 |                 |              |                 |          |          |                       |     |                                      |
|-------------------|---------------------------|------------------|-----------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION          | BOTTOM DEPTH, m | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 10/23/78          | 0                         | IS2              | 1.65            | .19          | .305            | 52       | 49       | >20                   | 8.9 | 256                                  |
| 10/30/78          | 7                         | IS2              | 1.75            | .17          | .305            | 45       | 43       | 11.6                  | 8.4 | 260                                  |
| 11/6/78           | 14                        | IS2              | 1.75            | .26          | .305            | 37       | 35       | 6.6                   | 8.4 | 264                                  |
| 11/13/78          | 21                        | IS2              | 1.75            | .30          | .305            | 15       | 13       | 11.5                  | 8.2 | 280                                  |
| 11/20/78          | 28                        | IS2              | 1.75            | .22          | .305            | 15       | 9        | 16.0                  | 8.0 | 262                                  |
|                   |                           | IS2-3            | ----            | ----         | .915            | 17       | ----     | 11.8                  | 7.9 | ----                                 |

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TABLE A-13-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 4 |                           | Isolation Pond 1 |                             |                                  |                |                     |                |                     |
|-------------------|---------------------------|------------------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION          | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 10/23/78          | 0                         | 1S2              | 15.0                        | 13.3                             | 157.1          | 84.7                | 48.7           | 18.5                |
| 10/30/78          | 7                         | 1S2              | 16.0                        | 5.3                              | 97.1           | 62.6                | 55.0           | 39.0                |
| 11/6/78           | 14                        | 1S2              | 12.5                        | 5.8                              | 115.0          | 76.0                | 32.3           | 25.4                |
| 11/13/78          | 21                        | 1S2              | 8.3                         | 1.0                              | 126.9          | 70.8                | 35.7           | 27.7                |
| 11/20/78          | 28                        | 1S2              | 15.3                        | 9.3                              | 122.0          | 74.7                | 34.2           | 24.6                |
|                   |                           | 1S2-3            | 16.5                        | -----                            | -----          | -----               | 35.9           | -----               |

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TABLE A-13-3  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 1  |                           |         |              |              |          |         |              |            |       |                         |                       |
|-------------------|---------------------------|---------|--------------|--------------|----------|---------|--------------|------------|-------|-------------------------|-----------------------|
| Isolation Cycle 4 |                           |         |              |              |          |         |              |            |       |                         |                       |
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L | AMMONIA mg/L | NITROGEN |         | NITRATE mg/L | PHOSPHORUS |       | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
| 10/23/78          | 0                         | 1S2     | 3.8          | <0.1         | AMMONIA  | NITRITE |              | TOTAL      | ORTHO |                         |                       |
| 10/30/78          | 7                         | 1S2     | 4.6          | <0.1         | mg/L     | mg/L    | mg/L         | mg/L       | mg/L  | 5                       | 660                   |
| 11/6/78           | 14                        | 1S2     | 4.7          | <0.1         |          |         | .20          | 4.7        | 4.3   | 0                       | 180                   |
| 11/13/78          | 21                        | 1S2     | 3.4          | <0.1         |          |         | .22          | 5.7        | 5.4   | 0                       | 12                    |
| 11/20/78          | 28                        | 1S2     | 4.1          | <0.1         |          |         | .14          | 5.75       | 5.5   | 0                       | 190                   |
|                   |                           | 1S2-3   | 3.9          | <0.1         |          |         | .17          | 6.7        | 5.7   | 0                       | 75                    |
|                   |                           |         |              |              |          |         | .14          | 5.9        | 5.2   | 0                       | ---                   |
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TABLE A-13-4

ISOLATION POND IN SITU MONITORING

| Isolation Cycle 4 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 10/23/78          | 0                    | 152     | >20                              | 19.5 | 9.7  | 3.9  | 0.7  | ---  | 21.1                      | 20.0 | 18.9 | 18.2 | 17.8 | ---  |
| 10/30/78          | 7                    | 152     | 11.6                             | 11.8 | 11.2 | 7.1  | 5.4  | ---  | 20.1                      | 20.1 | 20.0 | 18.2 | 18.5 | ---  |
| 11/6/78           | 14                   | 152     | 6.6                              | 6.5  | 6.4  | 6.2  | 5.8  | ---  | 17.0                      | 17.0 | 17.0 | 16.1 | 16.0 | ---  |
| 11/13/78          | 21                   | 152     | 11.5                             | 11.4 | 10.8 | 8.1  | 0.8  | ---  | 20.2                      | 20.0 | 19.7 | 19.0 | 17.6 | ---  |
| 11/20/78          | 28                   | 152     | 16.0                             | 15.4 | 11.8 | 9.0  | 8.5  | ---  | 17.3                      | 17.2 | 17.0 | 16.5 | 16.3 | ---  |

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TABLE A-14-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | Isolation Pond |                 |              |                 |          |          |                       |     |                                      |
|-----------------|---------------------------|----------------|-----------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| 5               |                           | 1              |                 |              |                 |          |          |                       |     |                                      |
| DATE            | CUMULATIVE ISOLATION DAYS | STATION        | BOTTOM DEPTH, m | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 12/7/78         | 0                         | 1S2            | 1.98            | .154         | .305            | 28       | 26       | 11.0                  | 8.1 | 246                                  |
| 12/14/78        | 7                         | 1S2            | 1.91            | .160         | .305            | 40       | 37       | 14.5                  | 8.3 | 224                                  |
| 12/21/78        | 14                        | 1S2            | 1.92            | .159         | .305            | 44       | 41       | 9.4                   | 7.9 | 232                                  |
| 12/28/78        | 21                        | 1S2            | 1.91            | .160         | .305            | 36       | 34       | 10.0                  | 8.2 | 216                                  |
| 1/2/79          | 26                        | 1S2            | 1.92            | .151         | .305            | 44       | 38       | 13.4                  | 7.9 | 238                                  |
| 1/2/79          | 26                        | 1S2-3          | ----            | ----         | .915            | 41       | --       | ----                  | 7.8 | ----                                 |

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TABLE A-14-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 5 |                           |         | Isolation Pond 1            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 12/7/78           | 0                         | 152     | 17.5                        | 4.0                              | 104.4          | 55.7                | 52.8           | 30.5                |
| 12/14/78          | 7                         | 152     | 12.0                        | 4.0                              | 91.4           | 76.6                | 46.6           | 26.9                |
| 12/21/78          | 14                        | 152     | 12.0                        | 10.5                             | 116.2          | 78.6                | 51.2           | 32.9                |
| 12/28/78          | 21                        | 152     | 11.5                        | 6.0                              | 128.0          | 68.0                | 44.5           | 28.5                |
| 1/2/79            | 26                        | 152     | 17.5                        | 11.5                             | 120.0          | 50.0                | 34.8           | 22.4                |
| 1/2/79            | 26                        | 152-3   | 16.5                        | -----                            | -----          | -----               | 42.8           | -----               |

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TABLE A-14-3

ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | Isolation Pond |         |      |              |              |              |            |            |                         |                       |
|-----------------|---------------------------|----------------|---------|------|--------------|--------------|--------------|------------|------------|-------------------------|-----------------------|
| DATE            | CUMULATIVE ISOLATION DAYS | STATION        | ORGANIC |      | NITROGEN     |              | NITRATE mg/L | PHOSPHORUS |            | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
|                 |                           |                | mg/L    | mg/L | AMMONIA mg/L | NITRITE mg/L |              | TOTAL mg/L | ORTHO mg/L |                         |                       |
| 12/7/78         | 0                         | 1S2            | 4.1     |      | <0.1         | 1.000        | .36          | 6.0        | 5.5        | 560                     | 250                   |
| 12/14/78        | 7                         | 1S2            | 4.6     |      | <0.1         | .245         | .17          | 3.9        | 3.5        | 0                       | 300                   |
| 12/21/78        | 14                        | 1S2            | 4.1     |      | <0.1         | .056         | .53          | 4.6        | 3.9        | 0                       | 340                   |
| 12/28/78        | 21                        | 1S2            | 4.1     |      | <0.1         | .042         | .28          | 4.2        | 3.1        | 0                       | 160                   |
| 1/2/79          | 26                        | 1S2            | 4.1     |      | 0.4          | .050         | .47          | 2.8        | 2.3        | 0                       | 430                   |
| 1/2/79          | 26                        | 1S2-3          | 4.8     |      | ---          | ---          | ---          | ---        | ---        | ---                     | 430                   |

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TABLE A-14-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 5 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 12/7/78           | 0                    | IS2     | 11.0                             | 10.5 | 10.1 | 9.9  | 9.4  | 8.8  | 16.0                      | 15.8 | 15.6 | 15.4 | 15.0 | 14.6 |
| 12/14/78          | 7                    | IS2     | 14.5                             | 14.0 | 13.2 | 12.4 | 11.5 | 11.0 | 9.6                       | 9.5  | 9.2  | 9.1  | 8.9  | 8.8  |
| 12/21/78          | 14                   | IS2     | 9.4                              | 9.2  | 9.1  | 8.5  | 8.4  | 8.2  | 12.3                      | 12.5 | 12.8 | 12.6 | 12.4 | 12.0 |
| 12/28/78          | 21                   | IS2     | 10.0                             | 9.7  | 9.4  | 9.3  | 9.1  | 9.0  | 7.5                       | 8.0  | 8.0  | 8.0  | 8.0  | 8.0  |
| 1/2/79            | 26                   | IS2     | 13.4                             | 13.2 | 13.0 | 12.6 | 12.3 | 12.1 | 7.5                       | 7.6  | 7.7  | 7.8  | 7.8  | 8.0  |

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TABLE A-15-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | 6       | Isolation Pond  |              |                 |          |          |                       |     |                                      |
|-----------------|---------------------------|---------|-----------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE            | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 1/25/79         | 0                         | 1S2     | 1.83            | .083         | .305            | 54       | 29       | 7.3                   | 7.6 | 172                                  |
| 2/1/79          | 7                         | 1S2     | 1.88            | .081         | .305            | 51       | 38       | 12.6                  | 7.9 | 174                                  |
| 2/8/79          | 14                        | 1S2     | 1.89            | .081         | .305            | 54       | 37       | 14.0                  | 8.1 | 154                                  |
| 2/15/79         | 21                        | 1S2     | 1.89            | .040         | .305            | 68       | 45       | 13.6                  | 9.0 | 156                                  |
| 2/22/79         | 28                        | 1S2     | 1.91            | .053         | .305            | 81       | 53       | 9.8                   | 8.2 | 154                                  |
| 2/22/79         | 28                        | 1S2-3   | ---             | ---          | .915            | 116      | ---      | ---                   | 8.4 | ---                                  |

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TABLE A-15-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | 6       | Isolation Pond 1            |                                  |                |                     |                |                     |
|-----------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE            | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 1/25/79         | 0                         | 1S2     | 17.0                        | 4.5                              | 94.1           | 66.6                | 38.0           | 20.9                |
| 2/1/79          | 7                         | 1S2     | 13.5                        | 5.3                              | 85.9           | 27.3                | 41.4           | 23.8                |
| 2/8/79          | 14                        | 1S2     | 13.5                        | 2.0                              | 100.7          | 58.1                | 40.3           | 23.6                |
| 2/15/79         | 21                        | 1S2     | 18.0                        | 3.5                              | 95.0           | 46.0                | 44.9           | 22.7                |
| 2/22/79         | 28                        | 1S2     | 15.0                        | 4.0                              | 85.5           | 54.2                | 38.3           | 22.2                |
| 2/22/79         | 28                        | 1S2-3   | 20.0                        | ---                              | ---            | ---                 | 43.0           | ---                 |

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TABLE A-15-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           | 6       |              | Isolation Pond |                       |              |            |                       |                         |                       | 1 |  |
|-----------------|---------------------------|---------|--------------|----------------|-----------------------|--------------|------------|-----------------------|-------------------------|-----------------------|---|--|
| DATE            | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L | AMMONIA mg/L   | NITROGEN NITRITE mg/L | NITRATE mg/L | TOTAL mg/L | PHOSPHORUS ORTHO mg/L | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |   |  |
| 1/25/79         | 0                         | 152     | 4.3          | .8             | .110                  | .61          | 2.5        | 2.2                   | 250                     | 110                   |   |  |
| 2/1/79          | 7                         | 152     | 4.6          | <0.1           | .050                  | .81          | 4.2        | 3.5                   | 30                      | 230                   |   |  |
| 2/8/79          | 14                        | 152     | 4.9          | <0.1           | .033                  | .67          | 2.8        | 2.4                   | 10                      | 450                   |   |  |
| 2/15/79         | 21                        | 152     | 5.3          | 0.1            | .023                  | .55          | 3.1        | 1.4                   | 20                      | 400                   |   |  |
| 2/22/79         | 28                        | 152     | 4.9          | <0.1           | .030                  | .78          | 2.0        | 1.5                   | 60                      | 300                   |   |  |
| 2/22/79         | 28                        | 152-3   | 4.7          |                |                       |              |            |                       |                         |                       |   |  |

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TABLE A-15-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 6 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 1/25/79           | 0                    | 1S2     | 7.3                              | 6.0  | 5.7  | 4.6  | 4.1  | 4.1  | 5.0                       | 5.0  | 4.5  | 4.5  | 4.5  | 4.5  |
| 2/1/79            | 7                    | 1S2     | 12.6                             | 12.5 | 12.5 | 12.0 | 12.0 | 11.5 | 3.7                       | 3.7  | 3.5  | 3.5  | 3.5  | 3.5  |
| 2/8/79            | 14                   | 1S2     | 14.0                             | 13.8 | 13.2 | 13.0 | 12.8 | 12.8 | 7.0                       | 6.9  | 6.5  | 6.3  | 6.3  | 6.3  |
| 2/15/79           | 21                   | 1S2     | 13.6                             | 13.4 | 12.8 | 12.8 | 12.8 | 12.8 | 12.5                      | 12.5 | 12.3 | 12.3 | 12.3 | 12.3 |
| 2/22/79           | 28                   | 1S2     | 9.8                              | 9.8  | 9.8  | 9.8  | 9.8  | 9.5  | 13.0                      | 13.0 | 13.0 | 13.0 | 13.0 | 12.5 |

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TABLE A-16-1  
ISOLATION POND IN SITU MONITORING

Isolation Pond

Isolation Cycle 7

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH, m | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|--------------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 3/19/79 | 0                               | 152     | 1.86               | .13                | .305               | 63          | 36          | 13.7                        | 8.6 | 134                                        |
| 3/26/79 | 7                               | 152     | 1.83               | .08                | .305               | 64          | 40          | 18.2                        | 9.0 | 150                                        |
| 4/3/79  | 15                              | 152     | 2.14               | .07                | .305               | 49          | 34          | 17.6                        | 8.6 | 144                                        |
| 4/9/79  | 21                              | 152     | 2.07               | .16                | .305               | 44          | 25          | 9.8                         | 8.9 | 146                                        |
| 4/17/79 | 29                              | 152     | 1.91               | .12                | .305               | 42          | 37          | >20                         | 9.6 | 132                                        |
| 4/24/79 | 36                              | 152     | 1.83               | .13                | .305               | 41          | 34          | 16.3                        | 8.9 | 144                                        |
| 4/24/79 | 36                              | 152-3   | ----               | ----               | .915               | 45          | —           | ----                        | 8.8 | —                                          |

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TABLE A-16-2  
ISOLATION FOND IN SITU MONITORING

Isolation Cycle 7

Isolation Pond 1

| DATE    | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOD TOTAL mg/L | TOD FILTERABLE mg/L |
|---------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| 3/19/79 | 0                         | 182     | 21.8                        | 5.0                              | 105            | 50                  | 42.7           | 31.5                |
| 3/26/79 | 7                         | 182     | 15.3                        | 5.5                              | 92             | 55                  | 65.8           | 37.3                |
| 4/3/79  | 15                        | 182     | 8.5                         | 4.5                              | 72             | 30                  | 19.8           | 10.5                |
| 4/9/79  | 21                        | 182     | 15.0                        | 4.0                              | 68             | 36                  | 23.8           | 13.4                |
| 4/17/79 | 29                        | 182     | 8.0                         | 2.0                              | 78             | 31                  | 33.8           | 15.0                |
| 4/24/79 | 36                        | 182     | 7.8                         | 2.5                              | 76             | 29                  | 31.5           | 13.5                |
| 4/24/79 | 36                        | 182-3   | 15.0                        | ---                              | ---            | ---                 | 34.9           | ---                 |

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TABLE A-16-3  
ISOLATION POND IN SITU MONITORING

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | NITROGEN        |                 |                 |                 | PROFENONE     |               | LEGAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------|-----------------|---------------|---------------|-------------------------------|-----------------------------|
|         |                                 |         | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITRATE<br>mg/L | NITRITE<br>mg/L | TOTAL<br>mg/L | OXIDE<br>mg/L |                               |                             |
| 2/19/79 | 0                               | 152     | 5.0             | 0.2             | .150            | 1.01            | 2.5           | 1.6           | 0                             | 520                         |
| 2/26/79 | 7                               | 152     | 5.4             | <0.1            | .050            | .46             | 2.1           | 1.5           | 0                             | 70                          |
| 4/3/79  | 15                              | 152     | 3.7             | <0.1            | .050            | .48             | 2.1           | 0.6           | 0                             | 130                         |
| 6/9/79  | 21                              | 152     | 3.8             | <0.1            | .020            | .33             | 2.2           | 0.6           | 0                             | 920                         |
| 6/17/79 | 29                              | 152     | 3.1             | <0.1            | .020            | .20             | 2.1           | 2.0           | 0                             | 310                         |
| 6/26/79 | 36                              | 152     | 3.0             | <0.1            | .010            | .26             | 1.3           | 1.1           | 0                             | 180                         |
| 6/26/79 | 36                              | 152-3   | 3.0             | ---             | ---             | ---             | ---           | ---           | ---                           | ---                         |

Isolation Pond 1

Isolation Cycle 7

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TABLE A-16-4  
ISOLATION FOND IN SITU MONITORING

| Isolation Cycle 7 |                      |         | Isolation Pond 1                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 3/19/79           | 0                    | 152     | 13.7                             | 13.0 | 11.9 | 9.8  | 7.9  | 6.2  | 19.2                      | 18.9 | 18.5 | 17.6 | 17.0 | 16.9 |
| 3/26/79           | 7                    | 152     | 18.2                             | 17.6 | 13.8 | 11.4 | 10.6 | 9.1  | 16.5                      | 16.2 | 15.3 | 15.7 | 14.5 | 14.1 |
| 4/3/79            | 15                   | 152     | 17.6                             | 16.9 | 15.4 | 13.9 | 12.8 | 11.7 | 13.4                      | 13.3 | 13.2 | 12.6 | 11.9 | 11.0 |
| 4/9/79            | 21                   | 152     | 9.8                              | 9.9  | 9.3  | 7.8  | 5.5  | 3.6  | 20.1                      | 20.0 | 19.4 | 19.0 | 18.6 | 18.3 |
| 4/17/79           | 29                   | 152     | >20.0                            | 19.8 | 13.7 | 8.8  | 3.9  | 0.9  | 26.7                      | 22.5 | 21.5 | 21.0 | 20.1 | 20.0 |
| 4/24/79           | 36                   | 152     | 16.3                             | 13.7 | 11.8 | 10.4 | 9.8  | 9.1  | 23.2                      | 22.1 | 21.9 | 21.2 | 20.9 | 20.2 |

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## APPENDIX B

TABLE B-1

ISOLATION POND EFFLUENT MONITORING

Isolation Pond 2

Monitoring Class Composite-24 Hour

Isolation Pond 2

Pond Drawdown 12"

| DATE    | BOD <sub>5</sub> ,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KELDIEB<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|---------|----------------------------|------------|---------------------------|----------|--------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                      |                             |             |                               |
| 7/25/76 | 21.3                       | 17.5       | 26.0                      | 18.0     | 5.6                                  | 7.1                         | 7.4         | 0                             |
| 7/26/76 | 13.8                       | 2.0        | 18.0                      | 15.0     | 6.1                                  | 7.8                         | 8.0         | 0                             |
| 7/27/76 | 14.5                       | 4.3        | 37.0                      | 34.0     | 4.8                                  | 5.5                         | 7.7         | 0                             |
| 7/28/76 | 17.5                       | 3.5        | 37.0                      | 34.0     | 5.0                                  | 8.4                         | 8.3         | 0                             |
| 7/29/76 | 15.2                       | 6.5        | 29.0                      | 26.0     | 5.6                                  | 7.2                         | 7.5         | 0                             |

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TABLE 9-2

## ISOLATION POND EFFLUENT MONITORING

Isolation Pond 2 (8/16-9/18/78)

Monitoring Class Composite 24 Hour

Isolation Pond 2

Pond Diameter 13.63 feet

| DATE    | BOD <sub>5</sub> ,<br>mg/L |           | TEMPERED SOLIDS,<br>mg/L |          | SOLID<br>KREIDLER,<br>RETROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|---------|----------------------------|-----------|--------------------------|----------|----------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FLATWATER | TOTAL                    | VOLATILE |                                        |                             |             |                               |
| 8/16/78 | 15.0                       | 5.0       | 10                       | 15       | 3.2                                    | 9.5                         | 9.0         | 0                             |
| 8/20/78 | 11.0                       | 5.0       | 29                       | 20       | 3.7                                    | 11.0                        | 8.5         | 0                             |
| 8/21/78 | 15.0                       | 8.3       | 60                       | 29       | 1.8                                    | 10.0                        | 8.6         | 0                             |
| 8/22/78 | 7.0                        | 1.5       | 35                       | 34       | 6.8                                    | 9.7                         | 8.4         | 0                             |
| 8/23/78 | 15.0                       | 6.2       | 20                       | 37       | 6.0                                    | 16.0                        | 8.0         | 0                             |
| 8/24/78 | 16.5                       | 5.8       | 65                       | 62       | 5.6                                    | 12.5                        | 8.1         | 0                             |
| 8/25/78 | 20.0                       | 10.0      | 65                       | 62       | 6.5                                    | 11.2                        | 8.2         | 0                             |

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TABLE B-3  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 3 (10/2-11/15/78)  
Monitoring Class Composite-24Hour

Isolation Pond 2  
Pond Drawdown 10.9 Inches

| DATE     | BOD <sub>5</sub> ,<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|----------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|          | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 11/16/78 | 16.3                       | 6.8        | 50                        | 47       | 3.9                                   | 10.6                        | 8.7         | 0                             |
| 11/17/78 | 14.0                       | 6.0        | 49                        | 49       | 4.5                                   | 11.3                        | 8.1         | 0                             |
| 11/18/78 | 17.3                       | 9.5        | 46                        | 40       | 4.0                                   | 11.2                        | 8.1         | 0                             |
| 11/19/78 | 15.0                       | 7.3        | 53                        | 48       | 3.6                                   | 11.2                        | 8.3         | 0                             |
| 11/20/78 | 15.5                       | 6.0        | 46                        | 41       | 4.3                                   | 11.5                        | 8.0         | 0                             |

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TABLE B-4  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 4 (11/30/78-11/2/79)

Monitoring Class Composite - 24 Hour

Isolation Pond 2

Pond Drawdown 16.25 Inches

| DATE   | BOD5.<br>mg/L |            | SUSPENDED SOLIDS,<br>mg/L |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|--------|---------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|        | TOTAL         | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 1/3/79 | 7.5           | 3.5        | 38                        | 30       | 4.1                                   | 11.4                        | 7.7         | 0                             |
| 1/4/79 | 8.8           | 2.3        | 28                        | 26       | 3.9                                   | 11.2                        | 7.6         | 0                             |
| 1/5/79 | 16.5          | 7.0        | 51                        | 46       | 5.3                                   | 10.6                        | 8.0         | 0                             |
| 1/6/79 | 8.5           | 3.5        | 36                        | 31       | 4.1                                   | 10.8                        | 7.8         | 0                             |
| 1/7/79 | 9.5           | 5.3        | 36                        | 29       | 3.9                                   | 10.2                        | 8.2         | 0                             |
| 1/8/79 | 4.3           | 0.5        | 39                        | 33       | 4.1                                   | 11.2                        | 7.8         | 0                             |
| 1/9/79 | 10.5          | 1.0        | 38                        | 31       | 3.8                                   | 10.6                        | 8.4         | 0                             |

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TABLE B-5  
ISOLATION POND EFFLUENT MONITORING

| Isolation Cycle 5 1/18/79-2/22/79  |                            | Isolation Pond 2           |                                       |                             |             |                               |
|------------------------------------|----------------------------|----------------------------|---------------------------------------|-----------------------------|-------------|-------------------------------|
| Monitoring Class Composite-24 Hour |                            | Pond Drawdown 17.38 Inches |                                       |                             |             |                               |
| DATE                               | BOD <sub>5</sub> ,<br>mg/L |                            | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|                                    | TOTAL                      | FILTERABLE                 |                                       |                             |             |                               |
| 2/23/79                            | 17.5                       | 7.0                        | TOTAL 51<br>VOLATILE 32               | 9.7                         | 7.5         | 10                            |
| 2/26/79                            | 18.8                       | 2.0                        | 65 34                                 | 9.2                         | 7.6         | 0                             |
| 2/27/79                            | 18.0                       | 4.0                        | 45 29                                 | 9.5                         | 7.4         | 0                             |
| 2/28/79                            | 17.5                       | 4.0                        | 52 36                                 | 9.8                         | 7.9         | 0                             |
| 3/1/79                             | 17.5                       | 3.5                        | 51 35                                 | 9.9                         | 7.4         | 10                            |
| 3/2/79                             | 17.8                       | 3.5                        | 40 25                                 | 10.8                        | 8.1         | 0                             |

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TABLE B-6  
ISOLATION POND EFFLUENT MONITORING

|                |              |
|----------------|--------------|
| Isolation Pond | 2            |
| Pond Drawdown  | 15.88 Inches |

Isolation Cycle 6 (3/12-4/17/79)

Monitoring Class Composite-24 Hour

| DATE    | BOD <sub>5</sub> ,<br>mg/ℓ |            | SUSPENDED SOLIDS,<br>mg/ℓ |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/ℓ | DISSOLVED<br>OXYGEN<br>mg/ℓ | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 ml |
|---------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
|         | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 4/18/79 | 7.3                        | 2.0        | 31                        | 27       | 2.5                                   | 12.2                        | 9.4         | 0                             |
| 4/19/79 | 11.5                       | 5.0        | 29                        | 25       | 2.5                                   | 10.6                        | 8.8         | 0                             |
| 4/20/79 | 9.0                        | 4.5        | 31                        | 28       | 2.6                                   | 9.3                         | 9.1         | 0                             |
| 4/21/79 | 11.5                       | 5.0        | 27                        | 25       | 2.7                                   | 8.3                         | 8.8         | 0                             |
| 4/22/79 | 10.5                       | 5.0        | 35                        | 25       | 2.9                                   | 8.4                         | 8.5         | 0                             |
| 4/23/79 | 10.5                       | 6.5        | 38                        | 34       | 3.0                                   | 6.2                         | 7.7         | 0                             |

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TABLE B-7  
ISOLATION POND EFFLUENT MONITORING

Isolation Cycle 7 (5/7-5/29/79)

Monitoring Class 24 Hour Composite

Isolation Pond 2

Pond Drawdown 15.5 Inches

| Fond Braundown 15.5 Inches |                            |            |                           |          |                                       |                             |             |                               |
|----------------------------|----------------------------|------------|---------------------------|----------|---------------------------------------|-----------------------------|-------------|-------------------------------|
| DATE                       | BOD <sub>5</sub> ,<br>mg/ℓ |            | SUSPENDED SOLIDS,<br>mg/ℓ |          | TOTAL<br>KJELDAHL<br>NITROGEN<br>mg/ℓ | DISSOLVED<br>OXYGEN<br>mg/ℓ | pH<br>UNITS | FECAL<br>COLIFORM<br>#/100 mL |
|                            | TOTAL                      | FILTERABLE | TOTAL                     | VOLATILE |                                       |                             |             |                               |
| 5/30/79                    | 5.5                        | 3.5        | 18                        | 11       | 2.7                                   | 7.7                         | 8.7         | 0                             |
| 5/31/79                    | 5.3                        | 1.5        | 14                        | 13       | 2.8                                   | 7.6                         | 8.7         | 0                             |
| 6/1/79                     | 9.0                        | 2.8        | 26                        | 21       | 2.6                                   | 8.2                         | 9.8         | 0                             |

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TABLE B-8-1  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 1

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 6/21/78 | 0                               | 2S1     | 1.65               | .21             | .305               | 39          | 37          | 16.2                        | 9.1 | 196                                        |
|         |                                 | 2S2     | 1.65               | .21             | .305               | 39          | 38          | 16.0                        | 9.1 | 194                                        |
|         |                                 | 2S3     | 1.65               | .21             | .305               | 48          | 46          | 15.9                        | 9.1 | 194                                        |
| 6/26/78 | 5                               | 2S1     | 1.75               | .23             | .305               | 36          | 34          | 6.9                         | 9.0 | 192                                        |
|         |                                 | 2S2     | 1.77               | .22             | .305               | 43          | 42          | 7.0                         | 9.1 | 194                                        |
|         |                                 | 2S3     | 1.74               | .22             | .305               | 42          | 40          | 7.2                         | 9.1 | 194                                        |
| 6/28/78 | 7                               | 2S1     | 1.77               | .25             | .305               | 47          | 46          | 9.7                         | 9.3 | 188                                        |
|         |                                 | 2S2     | 1.77               | .25             | .305               | 52          | 50          | 9.6                         | 9.3 | 186                                        |
|         |                                 | 2S3     | 1.77               | .26             | .305               | 41          | 38          | 9.5                         | 9.3 | 186                                        |
| 7/3/78  | 12                              | 2S1     | 1.70               | .22             | .305               | 21          | 20          | 7.9                         | 9.4 | 190                                        |
|         |                                 | 2S2     | 1.71               | .22             | .305               | 24          | 22          | 8.2                         | 9.4 | 188                                        |
|         |                                 | 2S3     | 1.68               | .22             | .305               | 26          | 25          | 6.6                         | 9.2 | 194                                        |

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TABLE B-8-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                                 |         | Isolation Pond                    |                                        |                      |                           |                      |                           |
|-----------------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| DATE            | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
| 6/21/78         | 0                               | 2S1     | 12.5                              | 4.0                                    | 94.5                 | 71.4                      | 20.6*                | 9.7*                      |
|                 |                                 | 2S2     | 12.0                              | 4.0                                    | 94.2                 | 68.5                      | 20.0                 | 7.1                       |
|                 |                                 | 2S3     | 13.8                              | 4.3                                    | 94.2                 | 70.0                      | 35.6                 | 10.2                      |
| 6/26/78         | 5                               | 2S1     | 10.8                              | 4.8                                    | 93.4                 | 72.2                      | 41.2                 | 18.1                      |
|                 |                                 | 2S2     | 20.8                              | 10.3                                   | 93.6                 | 74.8                      | 36.9                 | 22.3                      |
|                 |                                 | 2S3     | 21.0                              | 7.0                                    | 93.6                 | 70.9                      | 39.7                 | 15.5                      |
| 6/28/78         | 7                               | 2S1     | 9.3                               | 4.5                                    | 94.6                 | 70.0                      | 52.6                 | 40.7                      |
|                 |                                 | 2S2     | 10.8                              | 3.5                                    | 94.4                 | 72.5                      | 43.1                 | 37.5                      |
|                 |                                 | 2S3     | 8.8                               | 2.8                                    | 94.6                 | 71.8                      | 51.0                 | 47.2                      |
| 7/3/78          | 12                              | 2S1     | 13.8                              | 7.8                                    | 82.6                 | 70.6                      | 45.1                 | 32.7                      |
|                 |                                 | 2S2     | 15.0                              | 9.5                                    | 83.0                 | 73.2                      | 43.4                 | 32.5                      |
|                 |                                 | 2S3     | 15.5                              | 8.3                                    | 83.0                 | 71.9                      | 47.6                 | 32.0                      |

\*This sample was held over the weekend.

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TABLE B-8-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                                 | Isolation Pond 2 |                 |                 |          |      |                 |                             |                        |                               |                             |
|-------------------|---------------------------------|------------------|-----------------|-----------------|----------|------|-----------------|-----------------------------|------------------------|-------------------------------|-----------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION          | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN |      | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
| 6/21/78           | 0                               | 2S1              | 3.5             | <0.1            | .013     | .013 | .18             | 4.0                         | 3.85                   | 5                             | 575                         |
|                   |                                 | 2S2              | 3.6             | <0.1            | .013     | .013 | .17             | 4.0                         | 3.85                   | 0                             |                             |
|                   |                                 | 2S3              | 3.7             | <0.1            | .015     | .015 | .26             | 4.0                         | 3.85                   | 0                             |                             |
| 6/26/78           | 5                               | 2S1              | 5.2             | <0.1            | .02      | .02  | .26             | 3.8                         | 3.75                   | 0                             | 600                         |
|                   |                                 | 2S2              | 6.0             | <0.1            | .02      | .02  | .30             | 3.85                        | 3.75                   | 0                             |                             |
|                   |                                 | 2S3              | 6.1             | <0.1            | .02      | .02  | .30             | 3.9                         | 3.75                   | 0                             |                             |
| 6/28/78           | 7                               | 2S1              | 5.5             | <0.1            | .016     | .016 | .09             | 3.9                         | 3.8                    | 0                             | 725                         |
|                   |                                 | 2S2              | 6.3             | <0.1            | .018     | .018 | .11             | 3.8                         | 3.8                    | 0                             |                             |
|                   |                                 | 2S3              | 5.5             | <0.1            | .016     | .016 | .09             | 3.95                        | 3.8                    | 0                             |                             |
| 7/3/78            | 12                              | 2S1              | 4.3             | <0.1            | .026     | .026 | .14             | 3.75                        | 3.5                    | 0                             | 580                         |
|                   |                                 | 2S2              | 4.6             | <0.1            | .02      | .02  | .14             | 3.75                        | 3.6                    | 0                             |                             |
|                   |                                 | 2S3              | 4.6             | <0.1            | .023     | .023 | .16             | 3.75                        | 3.6                    | 0                             |                             |

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TABLE B-8-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 6/21/78           | 0                    | 2S1     | 16.2                             | 11.8 | 8.1  | 2.0  | .1   | --   | 32                        | 31   | 30   | 29.3 | 28.5 | --   |
|                   |                      | 2S2     | 16.0                             | 11.7 | 8.3  | 2.1  | 0    | --   | 32                        | 31   | 30   | 29.5 | 28.7 | --   |
|                   |                      | 2S3     | 15.9                             | 11.7 | 8.1  | 2.2  | .1   | --   | 32                        | 31   | 30   | 29.1 | 28.5 | --   |
| 6/26/78           | 5                    | 2S1     | 6.9                              | 5.6  | 4.5  | .3   | .2   | --   | 31                        | 31   | 30   | 29.2 | 27.9 | --   |
|                   |                      | 2S3     | 7.0                              | 5.9  | 4.7  | .2   | .1   | --   | 31                        | 31   | 30.4 | 29.5 | 28   | --   |
|                   |                      | 2S3     | 7.2                              | 6.0  | 4.9  | .2   | .1   | --   | 31.2                      | 30.7 | 30.2 | 29.7 | 28.1 | --   |
| 6/28/78           | 7                    | 2S1     | 9.7                              | 8.6  | 6.3  | 1.9  | .3   | --   | 32.5                      | 31.4 | 30.5 | 29.9 | 29.2 | --   |
|                   |                      | 2S2     | 9.6                              | 8.9  | 6.5  | 1.8  | .2   | --   | 32.5                      | 31.5 | 30.5 | 29.8 | 29.1 | --   |
|                   |                      | 2S3     | 9.5                              | 8.7  | 6.7  | 1.7  | .2   | --   | 32.7                      | 31.6 | 30.6 | 30   | 29.4 | --   |
| 7/3/78            | 12                   | 2S1     | 7.9                              | 6.8  | 4.1  | .9   | 0    | --   | 31.9                      | 31.8 | 31.4 | 30   | 28.6 | --   |
|                   |                      | 2S2     | 8.2                              | 7.4  | 5.8  | .9   | 0    | --   | 31.8                      | 31.8 | 31.5 | 29.9 | 28.4 | --   |
|                   |                      | 2S3     | 6.6                              | 6.2  | 5.8  | 2.1  | 0    | --   | 31.8                      | 31.8 | 31.5 | 31   | 28.7 | --   |

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TABLE B-8-5  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 1

| DATE   | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|--------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 7/5/78 | 14                              | 251     | 1.71               | .18             | .305               | 25          | 24          | 9.6                         | 9.0 | 190                                        |
|        |                                 | 252     | 1.80               | .17             | .305               | 27          | 25          | 9.6                         | 9.1 | 192                                        |
|        |                                 | 253     | 1.74               | .18             | .305               | 28          | 26          | 8.5                         | 9.0 | 188                                        |

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TABLE B-8-6  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 1

| DATE   | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|--------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 7/5/78 | 14                              | 251     | 13.8                              | 10.0                                   | 82.6                 | 69.8                      | 41.4                 | 26.7                      |
|        |                                 | 252     | 13.6                              | 9.8                                    | 83.0                 | 73.6                      | 41.5                 | 28.7                      |
|        |                                 | 253     | 15.0                              | 10.0                                   | 83.0                 | 72.8                      | 48.7                 | 28.7                      |

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TABLE B-8-7  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                           | Isolation Pond 2 |              |              |              |              |            |            |                         |                       |
|-------------------|---------------------------|------------------|--------------|--------------|--------------|--------------|------------|------------|-------------------------|-----------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION          | NITROGEN     |              |              |              | PHOSPHORUS |            | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
|                   |                           |                  | ORGANIC mg/L | AMMONIA mg/L | NITRITE mg/L | NITRATE mg/L | TOTAL mg/L | ORTHO mg/L |                         |                       |
| 7/5/78            | 14                        | 281              | 4.4          | <0.1         | .02          | .14          | 3.85       | 3.6        | 0                       | 600                   |
|                   |                           | 282              | 4.5          | <0.1         | .023         | .14          | 3.85       | 3.65       | 0                       |                       |
|                   |                           | 283              | 4.4          | <0.1         | .02          | .14          | 3.85       | 3.6        | 0                       |                       |

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TABLE B-8-8  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 7/5/78            | 14                   | 281     | 9.6                              | 8.1  | 6.9  | 5.6  | 0    | --   | 32.4                      | 31.4 | 30.5 | 29.7 | 29.3 | --   |
|                   |                      | 282     | 9.6                              | 8.9  | 7.2  | 6.4  | 0    | --   | 32.5                      | 33.4 | 30.5 | 28.8 | 29.1 | --   |
|                   |                      | 283     | 8.5                              | 8.7  | 7.8  | 6.7  | 0    | --   | 32.6                      | 32.4 | 30.4 | 27.9 | 29.1 | --   |

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TABLE 3-8-9  
ISOLATION POND IN SITU MONITORING

| Isolation Pond 2  |                                 |         |                    |                 |                    |             |             |                             |                                            |
|-------------------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|--------------------------------------------|
| Isolation Cycle 1 |                                 |         |                    |                 |                    |             |             |                             |                                            |
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECOND<br>DEPTH | SAMPLE<br>DEPTH, m | YES<br>mg/L | YES<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
| 7/12/78           | 21                              | 281     | 1.63               | .167            | .305               | 74          | 70          | 6.0                         | 194                                        |
|                   |                                 | 282     | 1.68               | .182            | .305               | 22          | 21          | 5.8                         | 194                                        |
|                   |                                 | 283     | 1.68               | .182            | .305               | 22          | 21          | 5.9                         | 192                                        |
| 7/19/78           | 26                              | 281     | 1.63               | .133            | .305               | 48          | 34          | 16.6                        | 220                                        |
|                   |                                 | 282     | 1.68               | .164            | .305               | 50          | 41          | 16.5                        | 216                                        |
|                   |                                 | 283     | 1.60               | .192            | .305               | 44          | 34          | 15.8                        | 218                                        |
| 7/26/78           | 33                              | 281     | 1.68               | .182            | .305               | 61          | 55          | 8.5                         | 246                                        |
|                   |                                 | 282     | 1.65               | .204            | .305               | 40          | 39          | 7.9                         | 236                                        |
|                   |                                 | 283     | 1.62               | .189            | .305               | 51          | 44          | 8.2                         | 242                                        |
| 7/26/78           | 33                              | 281     | -----              | -----           | .915               | 21          | ---         | ---                         | ---                                        |
|                   |                                 | 282     | -----              | -----           | .915               | 43          | ---         | ---                         | ---                                        |
|                   |                                 | 283     | -----              | -----           | .915               | 42          | ---         | ---                         | ---                                        |

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TABLE B-8-10  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 7/12/78 | 21                              | 2S1     | 16.8                              | 13.0                                   | 163.5                | 96.5                      | 79.2                 | 44.6                      |
|         |                                 | 2S2     | 12.0                              | 7.5                                    | 98.2                 | 88.2                      | 38.3                 | 33.7                      |
|         |                                 | 2S3     | 10.3                              | 8.5                                    | 98.2                 | 88.2                      | 45.4                 | 35.8                      |
| 7/19/78 | 28                              | 2S1     | 15.3                              | 4.8                                    | 124.0                | 90.3                      | 66.8                 | 48.8                      |
|         |                                 | 2S2     | 15.5                              | 3.3                                    | 135.0                | 96.7                      | 62.0                 | 52.7                      |
|         |                                 | 2S3     | 18.0                              | 4.5                                    | 123.1                | 84.3                      | 58.8                 | 54.5                      |
| 7/24/78 | 33                              | 2S1     | 22.5                              | 18.5                                   | 99.0                 | 72.5                      | 55.9                 | 42.4                      |
|         |                                 | 2S2     | 18.8                              | 3.5                                    | 120.4                | 92.7                      | 53.1                 | 39.1                      |
|         |                                 | 2S3     | 16.3                              | 6.0                                    | 92.3                 | 63.4                      | 50.8                 | 40.2                      |
| 7/24/78 | 33                              | 2S1     | 14.0                              | ---                                    | ---                  | ---                       | 55.6                 | ---                       |
|         |                                 | 2S2     | 18.5                              | ---                                    | ---                  | ---                       | 54.1                 | ---                       |
|         |                                 | 2S3     | 11.0                              | ---                                    | ---                  | ---                       | 58.0                 | ---                       |

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TABLE B-8-11  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                           |         |              | Isolation Pond 2 |                       |              |                       |                     |                         |                       |
|-------------------|---------------------------|---------|--------------|------------------|-----------------------|--------------|-----------------------|---------------------|-------------------------|-----------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L | AMMONIA mg/L     | NITROGEN NITRITE mg/L | NITRATE mg/L | PHOSPHORUS TOTAL mg/L | ORTHOPHOSPHATE mg/L | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
| 7/12/78           | 21                        | 251     | 8.57         | .39              | .018                  | .58          | 4.10                  | 3.60                | 0                       | 595                   |
|                   |                           | 252     | 4.37         | <0.1             | .017                  | .28          | 3.62                  | 3.40                | 0                       |                       |
|                   |                           | 253     | 4.48         | <0.1             | .017                  | .25          | 3.62                  | 3.45                | 0                       |                       |
| 7/19/78           | 28                        | 251     | 4.6          | <0.1             | .020                  | .235         | 3.3                   | 2.85                | 0                       | 600                   |
|                   |                           | 252     | 4.7          | <0.1             | .018                  | .250         | 3.4                   | 3.00                | 0                       |                       |
|                   |                           | 253     | 3.1          | <0.1             | .018                  | .220         | 3.4                   | 3.00                | 0                       |                       |
| 7/24/78           | 33                        | 251     | 7.1          | <0.1             | .018                  | .235         | 4.75                  | 4.3                 | 0                       | 650                   |
|                   |                           | 252     | 5.0          | <0.1             | .020                  | .165         | 3.5                   | 3.4                 | 0                       |                       |
|                   |                           | 253     | 6.0          | <0.1             | .013                  | .140         | 4.4                   | 4.3                 | 0                       |                       |
| 7/24/78           | 33                        | 251     | 14.3         | -----            | -----                 | -----        | -----                 | -----               | -----                   | -----                 |
|                   |                           | 252     | 5.5          | -----            | -----                 | -----        | -----                 | -----               | -----                   | -----                 |
|                   |                           | 253     | 9.9          | -----            | -----                 | -----        | -----                 | -----               | -----                   | -----                 |

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TABLE B-8-12  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 1 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 7/12/78           | 21                   | 2S1     | 6.0                              | 4.2  | 2.6  | .2   | 0    | --   | 31                        | 31   | 30   | 29   | 28   | --   |
|                   |                      | 2S2     | 5.8                              | 4.1  | 2.3  | .2   | 0    | --   | 31                        | 31   | 30   | 30   | 30   | --   |
|                   |                      | 2S3     | 5.9                              | 4.9  | 2.9  | .2   | 0    | --   | 31                        | 31   | 30   | 29   | 28   | --   |
| 7/19/78           | 28                   | 2S1     | 16.6                             | 9.2  | 6.9  | .4   | .3   | --   | 30                        | 30   | 29.5 | 29   | 28   | --   |
|                   |                      | 2S2     | 16.5                             | 8.5  | 7.2  | .3   | .4   | --   | 31                        | 30.5 | 30   | 29.5 | 29   | --   |
|                   |                      | 2S3     | 15.8                             | 7.2  | 5.9  | .3   | .2   | --   | 31                        | 30.5 | 30   | 29.5 | 28.5 | --   |
| 7/24/78           | 33                   | 2S1     | 8.5                              | 7.2  | 7.1  | 1.3  | .4   | --   | 30                        | 29.5 | 29   | 29   | 28   | --   |
|                   |                      | 2S2     | 7.9                              | 4.1  | 4.0  | 1.0  | .2   | --   | 30                        | 29   | 29   | 28.5 | 28   | --   |
|                   |                      | 2S3     | 8.2                              | 3.4  | 3.6  | 2.5  | .5   | --   | 30                        | 29.5 | 29   | 29   | 29   | --   |

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TABLE B-9-1  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 8/14/78 | 0                               | 2S1     | 1.83               | .075            | .305               | 43          | 42          | 2.8                         | 8.3 | 224                                        |
|         |                                 | 2S2     | 1.83               | .075            | .305               | 48          | 46          | 2.8                         | 8.3 | 224                                        |
|         |                                 | 2S3     | 1.83               | .075            | .305               | 86          | 84          | 3.0                         | 8.7 | 232                                        |
| 8/16/78 | 2                               | 2S1     | 1.80               | .119            | .305               | 57          | 55          | 2.5                         | 8.6 | 218                                        |
|         |                                 | 2S2     | 1.77               | .112            | .305               | 54          | 52          | 3.0                         | 8.7 | 224                                        |
|         |                                 | 2S3     | 1.83               | .108            | .305               | 55          | 55          | 3.1                         | 8.9 | 228                                        |
| 8/21/78 | 7                               | 2S1     | 1.80               | .110            | .305               | 39          | 38          | 4.5                         | 8.8 | 226                                        |
|         |                                 | 2S2     | 1.77               | .117            | .305               | 46          | 45          | 4.8                         | 8.9 | 230                                        |
|         |                                 | 2S3     | 1.80               | .110            | .305               | 42          | 40          | 5.0                         | 8.9 | 230                                        |
| 8/12/78 | 9                               | 2S1     | 1.77               | .112            | .305               | 40          | 38          | 5.1                         | 8.5 | 220                                        |
|         |                                 | 2S2     | 1.77               | .112            | .305               | 44          | 43          | 5.7                         | 8.6 | 226                                        |
|         |                                 | 2S3     | 1.80               | .110            | .305               | 45          | 44          | 5.0                         | 8.6 | 226                                        |

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TABLE B-9-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 8/14/78 | 0                               | 2S1     | 20.5                              | 9.3                                    | 135.2                | 84.7                      | 55.3                 | 23.6                      |
|         |                                 | 2S2     | 27.0                              | 8.0                                    | 138.7                | 98.4                      | 75.3                 | 25.8                      |
|         |                                 | 2S3     | 35.3                              | 17.5                                   | 196.0                | 135.2                     | 60.5                 | 33.5                      |
| 8/16/78 | 2                               | 2S1     | 29.8                              | 12.0                                   | 186.5                | 87.4                      | 37.4                 | 23.4                      |
|         |                                 | 2S2     | 30.0                              | 7.5                                    | 178.1                | 73.9                      | 35.3                 | 26.7                      |
|         |                                 | 2S3     | 25.5                              | 3.0                                    | 162.1                | 78.1                      | 38.4                 | 27.8                      |
| 8/21/78 | 7                               | 2S1     | 18.3                              | 6.0                                    | 187.5                | 122.8                     | 52.1                 | 41.6                      |
|         |                                 | 2S2     | 22.3                              | 2.3                                    | 168.9                | 81.6                      | 44.5                 | 24.2                      |
|         |                                 | 2S3     | 20.0                              | 4.5                                    | 160.8                | 81.6                      | 45.1                 | 21.6                      |
| 8/23/78 | 9                               | 2S1     | 12.8                              | 2.3                                    | 164.9                | 115.6                     | 61.9                 | 39.0                      |
|         |                                 | 2S2     | 8.8                               | .8                                     | 156.8                | 94.1                      | 57.3                 | 34.3                      |
|         |                                 | 2S3     | 12.8                              | 1.0                                    | 157.7                | 97.7                      | 57.3                 | 32.3                      |

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TABLE B-9-3  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------------------|-----------------|-----------------------------|------------------------|-------------------------------|-----------------------------|
| 8/14/78 | 0                               | 2S1     | 7.4             | <0.1            | .014                        | .26             | 5.7                         | 5.0                    | 0                             | 300                         |
|         |                                 | 2S2     | 7.3             | <0.1            | .017                        | .25             | 5.4                         | 4.4                    | 0                             |                             |
|         |                                 | 2S3     | 13.0            | <0.1            | .020                        | .92             | 6.1                         | 4.4                    | 20                            |                             |
| 8/16/78 | 2                               | 2S1     | 7.8             | <0.1            | .020                        | .38             | 4.2                         | 4.1                    | 0                             | 220                         |
|         |                                 | 2S2     | 7.8             | <0.1            | .016                        | .37             | 4.1                         | 3.9                    | 0                             |                             |
|         |                                 | 2S3     | 7.4             | <0.1            | .016                        | .36             | 4.0                         | 3.9                    | 0                             |                             |
| 8/21/78 | 7                               | 2S1     | 8.7             | <0.1            | .020                        | .44             | 4.6                         | 4.1                    | 0                             | 600                         |
|         |                                 | 2S2     | 7.5             | <0.1            | .013                        | .36             | 4.3                         | 4.2                    | 0                             |                             |
|         |                                 | 2S3     | 7.4             | <0.1            | .016                        | .33             | 4.3                         | 4.0                    | 0                             |                             |
| 8/23/78 | 9                               | 2S1     | 5.7             | <0.1            | .010                        | .25             | 4.5                         | 3.6                    | 0                             | 440                         |
|         |                                 | 2S2     | 5.8             | <0.1            | .013                        | .24             | 4.2                         | 3.5                    | 0                             |                             |
|         |                                 | 2S3     | 5.9             | <0.1            | .013                        | .24             | 4.5                         | 3.4                    | 0                             |                             |

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TABLE B-9-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                      | Isolation Pond 2 |                                  |      |      |      |      |                           |      |      |      |      |      |      |
|-------------------|----------------------|------------------|----------------------------------|------|------|------|------|---------------------------|------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION          | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |      |
|                   |                      |                  | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft                      | 1 Ft | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 8/14/78           | 0                    | 251              | 2.8                              | 1.0  | .6   | .5   | .3   | ---                       | 28.2 | 28   | 28   | 27.9 | 27.7 | ---  |
|                   |                      | 252              | 2.8                              | .6   | .4   | .4   | .3   | ---                       | 28.3 | 28.1 | 28   | 27.8 | 27.6 | ---  |
|                   |                      | 253              | 3.0                              | 1.6  | .5   | .4   | .3   | ---                       | 28.2 | 28.1 | 28   | 27.9 | 27.6 | ---  |
| 8/16/78           | 2                    | 251              | 2.5                              | 2.0  | 1.0  | .5   | .2   | ---                       | 28.2 | 28.2 | 28   | 27.8 | 27.5 | ---  |
|                   |                      | 252              | 3.0                              | 2.8  | 2.5  | 1.0  | .2   | ---                       | 28.2 | 28   | 27.8 | 27.6 | 27.2 | ---  |
|                   |                      | 253              | 3.1                              | 2.7  | 2.5  | 1.3  | .5   | ---                       | 28.6 | 28.2 | 28   | 27.4 | 27.2 | ---  |
| 8/21/78           | 7                    | 251              | 4.5                              | 4.0  | 3.0  | 1.0  | .6   | ---                       | 29.9 | 29.7 | 29.4 | 28.6 | 28   | ---  |
|                   |                      | 252              | 4.8                              | 3.8  | 1.5  | .6   | .4   | ---                       | 30   | 29.7 | 29.4 | 28.8 | 28.4 | ---  |
|                   |                      | 253              | 5.0                              | 3.0  | 1.4  | .5   | .4   | ---                       | 30   | 29.6 | 29.3 | 28.7 | 28.4 | ---  |
| 8/23/78           | 9                    | 251              | 5.1                              | 2.0  | 1.1  | .6   | .1   | ---                       | 29.8 | 29.6 | 29.4 | 28.8 | 27.9 | ---  |
|                   |                      | 252              | 5.7                              | 2.6  | 1.2  | .6   | .1   | ---                       | 29.8 | 29.7 | 29.4 | 28.7 | 28   | ---  |
|                   |                      | 253              | 5.0                              | 2.3  | 1.0  | .6   | .2   | ---                       | 29.8 | 29.6 | 29.3 | 28.7 | 27.9 | ---  |

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TABLE B-9-5  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 8/30/78 | 16                              | 2S1     | 1.86               | .213           | .305               | 56          | 29          | 4.1                         | 7.7 | 230                                        |
|         |                                 | 2S2     | 1.89               | .226           | .305               | 56          | 24          | 4.4                         | 7.7 | 230                                        |
|         |                                 | 2S3     | 1.83               | .217           | .305               | 52          | 22          | 4.1                         | 7.8 | 232                                        |
| 9/6/78  | 23                              | 2S1     | 1.86               | .115           | .305               | 45          | 43          | 7.2                         | 8.8 | 220                                        |
|         |                                 | 2S2     | 1.83               | .108           | .305               | 39          | 38          | 6.9                         | 9.0 | 228                                        |
|         |                                 | 2S3     | 1.83               | .108           | .305               | 47          | 46          | 7.3                         | 8.8 | 220                                        |
| 9/11/78 | 28                              | 2S1     | 1.83               | .167           | .305               | 36          | 36          | 4.5                         | 8.3 | 214                                        |
|         |                                 | 2S2     | 1.80               | .169           | .305               | 38          | 38          | 4.2                         | 8.5 | 220                                        |
|         |                                 | 2S3     | 1.83               | .167           | .305               | 41          | 40          | 3.8                         | 8.5 | 220                                        |
| 9/18/78 | 35                              | 2S1     | 1.77               | .172           | .305               | 50          | 49          | 10.4                        | 9.0 | 230                                        |
|         |                                 | 2S2     | 1.71               | .196           | .305               | 51          | 50          | 11.3                        | 9.1 | 234                                        |
|         |                                 | 2S3     | 1.80               | .169           | .305               | 45          | 44          | 11.5                        | 9.2 | 240                                        |

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TABLE B-9-6  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                           |         | Isolation Pond 2            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 8/30/78           | 16                        | 2S1     | 11.5                        | 3.5                              | 109.4          | 86.6                | 42.1           | 30.4                |
|                   |                           | 2S2     | 11.0                        | 1.8                              | 99.4           | 89.4                | 44.3           | 29.0                |
|                   |                           | 2S3     | 11.0                        | 4.8                              | 108.5          | 84.8                | 40.0           | 29.5                |
| 9/6/78            | 23                        | 2S1     | 17.5                        | 4.5                              | 151.4          | 86.9                | 49.4           | 25.8                |
|                   |                           | 2S2     | 17.0                        | 3.5                              | 143.4          | 84.2                | 46.9           | 28.1                |
|                   |                           | 2S3     | 12.0                        | 5.0                              | 135.3          | 95.0                | 37.9           | 19.5                |
| 9/11/78           | 28                        | 2S1     | 15.3                        | 6.5                              | 124.9          | 66.6                | 54.9           | 23.1                |
|                   |                           | 2S2     | 11.0                        | 6.0                              | 117.8          | 64.5                | 44.1           | 21.3                |
|                   |                           | 2S3     | 13.5                        | 4.5                              | 118.8          | 61.4                | 35.4           | 22.3                |
| 9/18/78           | 35                        | 2S1     | 16.8                        | 5.8                              | 161.0          | 90.2                | 44.9           | 26.3                |
|                   |                           | 2S2     | 14.8                        | 4.5                              | 131.6          | 93.8                | 42.7           | 19.7                |
|                   |                           | 2S3     | 14.0                        | 8.8                              | 137.1          | 115.0               | 31.7           | 20.3                |

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TABLE 8-9-7  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------------------|-----------------|-----------------------------|------------------------|-------------------------------|-----------------------------|
| 8/30/78 | 16                              | 251     | 6.6             | .7              | .016                        | .25             | 4.5                         | 4.3                    | 0                             | 460                         |
|         |                                 | 252     | 5.0             | .6              | .015                        | .22             | 4.4                         | 4.2                    | 0                             |                             |
|         |                                 | 253     | 4.7             | .9              | .018                        | .22             | 4.4                         | 4.2                    | 0                             |                             |
| 9/6/78  | 23                              | 251     | 6.7             | <0.1            | .015                        | .30             | 4.7                         | 4.6                    | 0                             | 400                         |
|         |                                 | 252     | 6.0             | <0.1            | .015                        | .25             | 4.6                         | 4.5                    | 0                             |                             |
|         |                                 | 253     | 4.7             | <0.1            | .013                        | .20             | 4.5                         | 4.4                    | 0                             |                             |
| 9/11/78 | 28                              | 251     | 4.8             | <0.1            | .013                        | .22             | 4.1                         | 3.6                    | 0                             | 200                         |
|         |                                 | 252     | 4.8             | <0.1            | .013                        | .21             | 4.4                         | 3.7                    | 0                             |                             |
|         |                                 | 253     | 4.8             | <0.1            | .013                        | .25             | 4.2                         | 3.6                    | 0                             |                             |
| 9/18/78 | 35                              | 251     | 4.8             | <0.1            | .010                        | .24             | 4.2                         | 3.9                    | 0                             | 650                         |
|         |                                 | 252     | 4.8             | <0.1            | .012                        | .21             | 4.1                         | 3.9                    | 0                             |                             |
|         |                                 | 253     | 4.8             | <0.1            | .010                        | .21             | 4.2                         | 3.9                    | 0                             |                             |

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TABLE B-9-8  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                      | Isolation Pond 2 |                                  |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|------------------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION          | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |                  | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 8/30/78           | 16                   | 251              | 4.1                              | 3.9  | 3.5  | 3.3  | 3.1  | 2.6  | 26.3                      | 26.4 | 26.4 | 26.5 | 26.5 | 26.5 |
|                   |                      | 252              | 4.4                              | 3.8  | 3.5  | 3.3  | 3.1  | 2.7  | 26.3                      | 26.3 | 26.4 | 26.4 | 26.5 | 26.5 |
|                   |                      | 253              | 4.1                              | 3.6  | 3.4  | 3.1  | 3.1  | 2.8  | 26.3                      | 26.4 | 26.4 | 26.4 | 26.4 | 26.3 |
| 9/4/78            | 23                   | 251              | 7.2                              | 3.8  | 2.9  | .8   | .1   | .1   | 27.5                      | 26.9 | 26.8 | 26   | 25.7 | 25.1 |
|                   |                      | 252              | 6.9                              | 5.5  | 4.0  | .8   | .1   | .1   | 27.2                      | 27   | 26.7 | 26.5 | 25.8 | 25   |
|                   |                      | 253              | 7.3                              | 3.6  | 2.7  | .7   | .1   | .1   | 27.5                      | 27   | 26.9 | 26.4 | 26.2 | 25.7 |
| 9/11/78           | 28                   | 251              | 6.5                              | 4.2  | 3.9  | 3.9  | .8   | .4   | 27                        | 27   | 27   | 27   | 26.5 | 25.9 |
|                   |                      | 252              | 6.2                              | 4.0  | 4.0  | 2.7  | .5   | ---  | 27                        | 27   | 27   | 27   | 26   | ---  |
|                   |                      | 253              | 3.8                              | 3.0  | 2.9  | .4   | .1   | ---  | 27                        | 27   | 27   | 27   | 26   | ---  |
| 9/18/78           | 35                   | 251              | 10.4                             | 10.0 | 10.0 | 1.0  | .5   | .2   | 27                        | 27   | 27   | 27   | 27   | 26   |
|                   |                      | 252              | 11.3                             | 11.1 | 8.2  | .8   | .3   | 0    | 28                        | 28   | 27   | 27   | 27   | 26   |
|                   |                      | 253              | 11.5                             | 11.5 | 6.2  | 1.0  | .2   | .1   | 28                        | 28   | 28   | 27   | 27   | 26   |

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TABLE B-3-9  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECOND<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 9/18/78 | 35                              | 281-3   | ---                | ---             | .915               | 52          | ---         | ---                         | 8.4 | ---                                        |
|         |                                 | 282-3   | ---                | ---             | .915               | 66          | ---         | ---                         | 8.6 | ---                                        |
|         |                                 | 283-3   | ---                | ---             | .915               | 28          | ---         | ---                         | 8.3 | ---                                        |

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TABLE 8-9-10  
ISOLATION POND IN SITE MONITORING

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | NO <sub>2</sub><br>TOTAL<br>mg/L | NO <sub>2</sub><br>FILTERABLE<br>mg/L | CO <sub>2</sub><br>TOTAL<br>mg/L | CO <sub>2</sub><br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|----------------------------------|---------------------------------------|----------------------------------|---------------------------------------|----------------------|---------------------------|
| 9/18/78 | 35                              | 281-3   | 19.0                             | ---                                   | ---                              | ---                                   | 48.5                 | ---                       |
|         |                                 | 282-3   | 17.3                             | ---                                   | ---                              | ---                                   | 42.4                 | ---                       |
|         |                                 | 283-3   | 15.8                             | ---                                   | ---                              | ---                                   | 34.4                 | ---                       |

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TABLE B-9-11  
ISOLATION POND IN SITE REMEDIATION

Isolation Pond 2

Isolation Cycle 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>mg/L | NITRATE<br>mg/L | TOTAL<br>mg/L | PERFORMING<br>ORGANO<br>mg/L | PERAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|------------------|-----------------|---------------|------------------------------|-------------------------------|-----------------------------|
| 9/18/78 | 35                              | 281-3   | 6.7             | -----           | -----            | -----           | -----         | -----                        | -----                         | -----                       |
|         |                                 | 282-3   | 6.8             | -----           | -----            | -----           | -----         | -----                        | -----                         | -----                       |
|         |                                 | 283-3   | 6.8             | -----           | -----            | -----           | -----         | -----                        | -----                         | -----                       |

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TABLE B-10-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           |         | Isolation Pond  |              |                 |          |          |                       |     |                                      |
|-----------------|---------------------------|---------|-----------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE            | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 10/2/78         | 0                         | 2S1     | 1.77            | .14          | .305            | 42       | 41       | 4.8                   | 8.2 | 258                                  |
|                 |                           | 2S2     | 1.80            | .14          | .305            | 44       | 42       | 6.5                   | 8.2 | 256                                  |
|                 |                           | 2S3     | 1.77            | .16          | .305            | 42       | 40       | 6.3                   | 8.2 | 256                                  |
| 10/4/78         | 2                         | 2S1     | 1.74            | .14          | .305            | 42       | 39       | 5.9                   | 8.1 | 256                                  |
|                 |                           | 2S2     | 1.74            | .14          | .305            | 42       | 40       | 6.5                   | 8.1 | 248                                  |
|                 |                           | 2S3     | 1.86            | .15          | .305            | 42       | 40       | 7.2                   | 8.3 | 248                                  |
| 10/9/78         | 7                         | 2S1     | 1.75            | .17          | .305            | 42       | 41       | 8.6                   | 8.3 | 250                                  |
|                 |                           | 2S2     | 1.74            | .16          | .305            | 44       | 43       | 10.4                  | 8.3 | 250                                  |
|                 |                           | 2S3     | 1.68            | .16          | .305            | 39       | 38       | 10.5                  | 8.4 | 256                                  |
| 10/12/78        | 10                        | 2S1     | 1.74            | .18          | .305            | 51       | 49       | 15.0                  | 8.5 | 260                                  |
|                 |                           | 2S2     | 1.77            | .17          | .305            | 46       | 43       | 15.5                  | 8.5 | 262                                  |
|                 |                           | 2S3     | 1.71            | .16          | .305            | 50       | 48       | 17.2                  | 8.5 | 260                                  |

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TABLE 8-10-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 2            |                                  |                |                     |                |                     |
|-------------------|---------------------------|---------|-----------------------------|----------------------------------|----------------|---------------------|----------------|---------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOD <sub>5</sub> TOTAL mg/L | BOD <sub>5</sub> FILTERABLE mg/L | COD TOTAL mg/L | COD FILTERABLE mg/L | TOC TOTAL mg/L | TOC FILTERABLE mg/L |
| 10/2/78           | 0                         | 2S1     | 15.5                        | 7.8                              | 103.9          | 45.7                | 35.6           | 22.7                |
|                   |                           | 2S2     | 15.3                        | 6.3                              | 106.2          | 46.2                | 39.3           | 21.5                |
|                   |                           | 2S3     | 15.5                        | 6.0                              | 100.0          | 37.2                | 38.1           | 18.9                |
| 10/4/78           | 2                         | 2S1     | 14.8                        | 7.5                              | 119.0          | 70.5                | 45.5           | 23.4                |
|                   |                           | 2S2     | 15.3                        | 6.8                              | 124.7          | 52.4                | 44.9           | 23.4                |
|                   |                           | 2S3     | 15.8                        | 5.8                              | 128.5          | 64.7                | 36.4           | 20.1                |
| 10/9/78           | 7                         | 2S1     | 11.0                        | 2.3                              | 137.3          | 60.2                | 54.3           | 38.5                |
|                   |                           | 2S2     | 11.5                        | 1.0                              | 125.7          | 58.1                | 56.2           | 38.0                |
|                   |                           | 2S3     | 11.3                        | 1.3                              | 128.9          | 69.7                | 54.2           | 34.3                |
| 10/12/78          | 10                        | 2S1     | 15                          | 4.0                              | 134.1          | 64.5                | 44.6           | 20.9                |
|                   |                           | 2S2     | 12.5                        | 1.0                              | 130.0          | 58.5                | 45.6           | 21.1                |
|                   |                           | 2S3     | 14.0                        | 4.0                              | 138.1          | 62.5                | 45.1           | 20.5                |

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TABLE B-10-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 2 |                 |                             |                 |                             |                        |                            |                          |
|-------------------|---------------------------|---------|------------------|-----------------|-----------------------------|-----------------|-----------------------------|------------------------|----------------------------|--------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC<br>mg/L  | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL COLIFORM<br>#/100 mL | LIGHT INTENSITY<br>fc-cd |
| 10/2/78           | 0                         | 2S1     | 6.3              | <0.1            | .020                        | .30             | 5.7                         | 4.9                    | 0                          | 395                      |
|                   |                           | 2S2     | 6.2              | <0.1            | .020                        | .28             | 5.4                         | 4.8                    | 0                          | 395                      |
|                   |                           | 2S3     | 6.4              | <0.1            | .020                        | .28             | 5.2                         | 4.8                    | 0                          | 295                      |
| 10/4/78           | 2                         | 2S1     | 6.3              | <0.1            | .020                        | .14             | 5.3                         | 4.6                    | 0                          | 300                      |
|                   |                           | 2S2     | 6.3              | <0.1            | .017                        | .14             | 5.2                         | 4.6                    | 0                          | 300                      |
|                   |                           | 2S3     | 6.3              | <0.1            | .017                        | .14             | 5.3                         | 4.6                    | 0                          | 300                      |
| 10/9/78           | 7                         | 2S1     | 5.9              | <0.1            | .020                        | .17             | 5.3                         | 4.6                    | 0                          | 150                      |
|                   |                           | 2S2     | 5.8              | <0.1            | .020                        | .17             | 5.4                         | 4.6                    | 0                          | 150                      |
|                   |                           | 2S3     | 5.8              | <0.1            | .020                        | .19             | 5.3                         | 4.6                    | 0                          | 150                      |
| 10/12/78          | 10                        | 2S1     | 5.2              | <0.1            | .015                        | .22             | 5.2                         | 4.5                    | 0                          | 300                      |
|                   |                           | 2S2     | 5.4              | <0.1            | .015                        | .24             | 4.7                         | 4.4                    | 0                          | 300                      |
|                   |                           | 2S3     | 5.2              | <0.1            | .008                        | .22             | 4.7                         | 4.4                    | 0                          | 300                      |

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TABLE B-10-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 10/2/78           | 0                    | 2S1     | 4.8                              | 4.5  | 4.1  | 3.9  | 3.5  | ---- | 24                        | 24   | 24   | 24   | 24   | ---- |
|                   |                      | 2S2     | 6.5                              | 6.1  | 5.2  | 4.4  | 4.0  | ---- | 23                        | 23   | 23   | 23   | 23   | ---- |
|                   |                      | 2S3     | 6.3                              | 5.1  | 4.8  | 4.7  | 5.0  | ---- | 24                        | 23   | 23   | 23   | 23   | ---- |
| 10/4/78           | 2                    | 2S1     | 5.9                              | 5.9  | 5.5  | 5.5  | 4.3  | ---- | 23                        | 23   | 23   | 23   | 23   | ---- |
|                   |                      | 2S2     | 6.5                              | 6.5  | 6.3  | 5.2  | 4.7  | ---- | 23                        | 23   | 23   | 23   | 23   | ---- |
|                   |                      | 2S3     | 7.2                              | 7.2  | 7.0  | 5.1  | 3.7  | ---- | 23                        | 23   | 23   | 23   | 23   | ---- |
| 10/9/78           | 7                    | 2S1     | 8.6                              | 8.1  | 8.0  | 8.0  | 8.0  | ---- | 19                        | 19   | 19   | 19   | 19   | ---- |
|                   |                      | 2S2     | 10.4                             | 10.1 | 9.2  | 9.0  | 8.2  | ---- | 19                        | 19   | 19   | 19   | 19   | ---- |
|                   |                      | 2S3     | 10.5                             | 10.1 | 9.2  | 9.1  | 9.0  | ---- | 19                        | 19   | 19   | 19   | 19   | ---- |
| 10/12/78          | 10                   | 2S1     | 15.0                             | 15.0 | 8.2  | 2.0  | .4   | ---- | 21                        | 21   | 21   | 20   | 20   | ---- |
|                   |                      | 2S2     | 15.5                             | 15.5 | 10.0 | 2.7  | 1.3  | ---- | 21                        | 21   | 20   | 20   | 20   | ---- |
|                   |                      | 2S3     | 17.2                             | 16.0 | 8.3  | 2.3  | .7   | ---- | 21                        | 21   | 20   | 19   | 19   | ---- |

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TABLE B-10-5  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 3

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|----------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 10/18/78 | 16                              | 2S1     | 1.68               | .09             | .305               | 51          | 36          | 17.2                        | 9.2 | 256                                        |
|          |                                 | 2S2     | 1.62               | .14             | .305               | 51          | 36          | 16.6                        | 9.1 | 254                                        |
|          |                                 | 2S3     | 1.68               | .14             | .305               | 52          | 38          | 15.8                        | 9.1 | 256                                        |
| 10/26/78 | 24                              | 2S1     | 1.68               | .14             | .305               | 57          | 43          | 16.3                        | 8.6 | 290                                        |
|          |                                 | 2S2     | 1.68               | .14             | .305               | 53          | 43          | 16.8                        | 8.7 | 276                                        |
|          |                                 | 2S3     | 1.68               | .14             | .305               | 50          | 44          | 17.5                        | 8.7 | 280                                        |
| 11/1/78  | 30                              | 2S1     | 1.60               | .14             | .305               | 76          | 74          | >20                         | 9.2 | 280                                        |
|          |                                 | 2S2     | 1.60               | .14             | .305               | 75          | 73          | >20                         | 9.2 | 276                                        |
|          |                                 | 2S3     | 1.60               | .14             | .305               | 70          | 67          | >20                         | 9.1 | 274                                        |
| 11/8/78  | 37                              | 2S1     | 1.58               | .14             | .305               | 59          | 48          | 14.0                        | 8.7 | 276                                        |
|          |                                 | 2S2     | 1.58               | .14             | .305               | 54          | 48          | 14.2                        | 8.7 | 274                                        |
|          |                                 | 2S3     | 1.60               | .14             | .305               | 54          | 47          | 14.4                        | 8.7 | 276                                        |

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TABLE B-10-6  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 3

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|----------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 10/18/78 | 16                              | 2S1     | 20.5                              | 8.5                                    | 142.7                | 59.0                      | 48.3                 | 33.3                      |
|          |                                 | 2S2     | 19.5                              | 4.5                                    | 144.6                | 61.0                      | 48.8                 | 34.1                      |
|          |                                 | 2S3     | 18.5                              | 4.5                                    | 144.6                | 68.9                      | 44.3                 | 34.5                      |
| 10/26/78 | 24                              | 2S1     | 8.0                               | 5.0                                    | 104.6                | 38.4                      | 68.1                 | 52.7                      |
|          |                                 | 2S2     | 10.0                              | 6.0                                    | 108.1                | 43.6                      | 63.3                 | 36.0                      |
|          |                                 | 2S3     | 11.8                              | 8.5                                    | 124.7                | 53.2                      | 69.8                 | 56.6                      |
| 11/1/78  | 30                              | 2S1     | 21.5                              | 17.0                                   | 121.8                | 45.8                      | 53.0                 | 42.9                      |
|          |                                 | 2S2     | 23.3                              | 9.0                                    | 126.1                | 51.8                      | 63.7                 | 40.4                      |
|          |                                 | 2S3     | 23.5                              | 10.8                                   | 123.6                | 44.1                      | 52.6                 | 31.0                      |
| 11/8/78  | 37                              | 2S1     | 17.0                              | 6.5                                    | 155.5                | 72.0                      | 53.1                 | 21.5                      |
|          |                                 | 2S2     | 19.0                              | 6.8                                    | 156.5                | 71.0                      | 54.3                 | 27.1                      |
|          |                                 | 2S3     | 18.8                              | 7.0                                    | 145.5                | 84.5                      | 55.2                 | 29.7                      |

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TABLE B-10-7  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 2 |                 |                 |               |                 |               |   |                            |                          |
|-------------------|---------------------------|---------|------------------|-----------------|-----------------|---------------|-----------------|---------------|---|----------------------------|--------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC<br>mg/L  | NITROGEN        |                 |               | NITRATE<br>mg/L | PHOSPHORUS    |   | FECAL COLIFORM<br>#/100 mL | LIGHT INTENSITY<br>ft-cd |
|                   |                           |         |                  | AMMONIA<br>mg/L | NITRITE<br>mg/L | TOTAL<br>mg/L |                 | ORTHO<br>mg/L |   |                            |                          |
| 10/18/78          | 16                        | 2S1     | 5.5              | <0.1            | .020            | .14           | 5.1             | 4.5           | 0 | 610                        |                          |
|                   |                           | 2S2     | 5.4              | <0.1            | .016            | .22           | 5.3             | 4.6           | 0 | 610                        |                          |
|                   |                           | 2S3     | 5.4              | <0.1            | .016            | .20           | 5.1             | 4.5           | 0 | 610                        |                          |
| 10/26/78          | 24                        | 2S1     | 4.8              | <0.1            | .010            | .25           | 5.0             | 4.6           | 0 | 640                        |                          |
|                   |                           | 2S2     | 4.6              | <0.1            | .007            | .24           | 4.8             | 4.6           | 0 | 640                        |                          |
|                   |                           | 2S3     | 4.6              | <0.1            | .010            | .22           | 4.9             | 4.5           | 0 | 640                        |                          |
| 11/1/78           | 30                        | 2S1     | 5.0              | <0.1            | .017            | .25           | 4.7             | 4.3           | 0 | 980                        |                          |
|                   |                           | 2S2     | 4.8              | <0.1            | .017            | .24           | 4.7             | 4.3           | 0 | 980                        |                          |
|                   |                           | 2S3     | 4.8              | <0.1            | .017            | .24           | 4.7             | 4.3           | 0 | 980                        |                          |
| 11/8/78           | 37                        | 2S1     | 4.5              | <0.1            | .017            | .28           | 4.4             | 4.0           | 0 | 600                        |                          |
|                   |                           | 2S2     | 4.4              | <0.1            | .013            | .28           | 5.0             | 3.9           | 0 | 600                        |                          |
|                   |                           | 2S3     | 4.1              | <0.1            | .013            | .30           | 5.5             | 4.0           | 0 | 600                        |                          |

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TABLE B-10-8  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                         |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|-------------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE<br>ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                         |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 10/18/78          | 16                      | 2S1     | 17.2                             | 16.2 | 14.4 | 12.0 | 10.8 | ---  | 16                        | 18   | 18   | 17.5 | 17   | ---  |
|                   |                         | 2S2     | 16.6                             | 16.0 | 12.8 | 12.0 | 10.4 | ---  | 19                        | 19   | 18   | 17   | 17   | ---  |
|                   |                         | 2S3     | 15.8                             | 13.8 | 12.9 | 11.7 | 10.7 | ---  | 16.5                      | 16   | 16   | 15   | 15   | ---  |
| 10/26/78          | 24                      | 2S1     | 16.3                             | 15.5 | 13.5 | 8.5  | 1.5  | ---  | 20                        | 19.5 | 19.5 | 19   | 18   | ---  |
|                   |                         | 2S2     | 16.8                             | 17.0 | 17.0 | 11.0 | 2.8  | ---  | 24                        | 24   | 24   | 23   | 21.5 | ---  |
|                   |                         | 2S3     | 17.5                             | 18.3 | 18.3 | 12.5 | 3.0  | ---  | 24                        | 24   | 24.3 | 23.9 | 21.9 | ---  |
| 11/1/78           | 30                      | 2S1     | >20                              | 17.6 | 11.8 | 4.0  | 2.3  | ---  | 23.1                      | 20.9 | 19.1 | 18.5 | 18.5 | ---  |
|                   |                         | 2S2     | >20                              | 19.5 | 14.3 | 13.5 | 8.2  | ---  | 23.0                      | 22.5 | 20.5 | 19.0 | 19.0 | ---  |
|                   |                         | 2S3     | >20                              | >20  | 20.0 | 10.6 | 4.5  | ---  | 21.7                      | 21.2 | 21.0 | 19.0 | 18.7 | ---  |
| 11/8/78           | 37                      | 2S1     | 14.0                             | 13.2 | 12.6 | 11.6 | 7.8  | ---  | 16.5                      | 16.5 | 16.5 | 16.0 | 15.1 | ---  |
|                   |                         | 2S2     | 14.2                             | 13.8 | 13.2 | 10.4 | 8.0  | ---  | 16.6                      | 16.6 | 16.5 | 16.0 | 15.2 | ---  |
|                   |                         | 2S3     | 14.4                             | 14.0 | 13.2 | 11.2 | 8.5  | ---  | 16.6                      | 16.5 | 16.1 | 16.0 | 15.3 | ---  |

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TABLE B-10-9  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                           |         | Isolation Pond 2 |              |                 |          |          |                       |     |                                      |
|-------------------|---------------------------|---------|------------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m  | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 11/15/78          | 44                        | 2S1     | 1.60             | .14          | .305            | 51       | 51       | 18.5                  | 8.9 | 270                                  |
|                   |                           | 2S2     | 1.60             | .14          | .305            | 52       | 51       | 19.7                  | 8.9 | 270                                  |
|                   |                           | 2S3     | 1.60             | .14          | .305            | 52       | 51       | 18.9                  | 9.0 | 270                                  |
| 11/15/78          | 44                        | 2S1-3   | ---              | ---          | .915            | 55       | ---      | ---                   | 9.1 | ---                                  |
|                   |                           | 2S2-3   | ---              | ---          | .915            | 54       | ---      | ---                   | 9.1 | ---                                  |
|                   |                           | 2S3-3   | ---              | ---          | .915            | 56       | ---      | ---                   | 9.1 | ---                                  |

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TABLE B-10-10  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 3

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD-<br>TOTAL<br>mg/L | BODs<br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|----------|---------------------------------|---------|-----------------------|----------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 11/15/78 | 44                              | 2S1     | 16.5                  | 6.5                        | 141.2                | 71.8                      | 56.8                 | 27.7                      |
|          |                                 | 2S2     | 14.5                  | 7.0                        | 151.6                | 101.4                     | 54.5                 | 23.0                      |
|          |                                 | 2S3     | 16.5                  | 4.5                        | 144.2                | 69.4                      | 53.1                 | 20.7                      |
| 11/15/78 | 44                              | 2S1-3   | 21.0                  | ---                        | ---                  | ---                       | 65.7                 | ---                       |
|          |                                 | 2S2-3   | 19.5                  | ---                        | ---                  | ---                       | 61.2                 | ---                       |
|          |                                 | 2S3-3   | 20.3                  | ---                        | ---                  | ---                       | 64.7                 | ---                       |

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TABLE B-10-11  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 3

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | NITROGEN        |                 |  | NITRATE<br>mg/L | TOTAL<br>mg/L | PHOSPHORUS<br>ORTHO<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft.-cd |
|----------|---------------------------------|---------|-----------------|-----------------|-----------------|--|-----------------|---------------|-----------------------------|-------------------------------|------------------------------|
|          |                                 |         |                 | AMMONIA<br>mg/L | NITRITE<br>mg/L |  |                 |               |                             |                               |                              |
| 11/15/78 | 44                              | 2S1     | 4.7             | <0.1            | .008            |  | .25             | 4.2           | 4.0                         | 0                             | 75                           |
|          |                                 | 2S2     | 4.6             | <0.1            | .010            |  | .25             | 4.3           | 4.0                         | 0                             | 75                           |
|          |                                 | 2S3     | 4.3             | <0.1            | .010            |  | .25             | 4.2           | 4.0                         | 0                             | 75                           |
| 11/15/78 | 44                              | 2S1-3   | 5.1             | ---             | ---             |  | ---             | ---           | ---                         | ---                           | 75                           |
|          |                                 | 2S2-3   | 4.6             | ---             | ---             |  | ---             | ---           | ---                         | ---                           | 75                           |
|          |                                 | 2S3-3   | 4.4             | ---             | ---             |  | ---             | ---           | ---                         | ---                           | 75                           |

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TABLE B-10-12  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 3 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 11/15/78          | 44                   | 2S1     | 14.4                             | 13.6 | 12.8 | 12.0 | 6.3  | ---- | 18.5                      | 18.2 | 15.9 | 15.8 | 15.0 | ---- |
|                   |                      | 2S2     | 13.8                             | 13.4 | 12.0 | 8.1  | 4.9  | ---- | 19.7                      | 19.6 | 19.3 | 15.7 | 15.4 | ---- |
|                   |                      | 2S3     | 13.0                             | 12.5 | 12.0 | 10.0 | 5.6  | ---- | 18.9                      | 17.5 | 17.3 | 16.9 | 16.9 | ---- |

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TABLE B-11-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                           |         |                 | Isolation Pond |                 |          |          |                       |     |                                      |
|-----------------|---------------------------|---------|-----------------|----------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| 4               |                           |         |                 | 2              |                 |          |          |                       |     |                                      |
| DATE            | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m | SECHL DEPTH    | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 11/30/78        | 0                         | 252     | 2.06            | .123           | .305            | 38       | 35       | 9.4                   | 8.1 | 270                                  |
| 12/7/78         | 7                         | 252     | 2.07            | .147           | .305            | 35       | 33       | 11.2                  | 8.5 | 240                                  |
| 12/14/78        | 14                        | 252     | 2.06            | .123           | .305            | 38       | 34       | 14.0                  | 8.5 | 228                                  |
| 12/21/78        | 21                        | 252     | 2.01            | .167           | .305            | 39       | 38       | 11.0                  | 8.5 | 236                                  |
| 12/28/78        | 28                        | 252     | 1.98            | .115           | .305            | 34       | 23       | 7.0                   | 8.5 | 230                                  |
| 1/2/79          | 33                        | 252     | 1.98            | .200           | .309            | 31       | 28       | 13.8                  | 8.1 | 208                                  |
| 1/2/79          | 33                        | 252-3   |                 |                | .915            | 36       |          |                       | 8.1 |                                      |

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TABLE B-11-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 4

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|----------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 11/30/78 | 0                               | 282     | 23.0                              | 10.0                                   | 138.9                | 57.3                      | 46.9                 | 26.8                      |
| 12/7/78  | 7                               | 282     | 15.0                              | 2.0                                    | 115.5                | 52.9                      | 50.6                 | 23.2                      |
| 12/14/78 | 14                              | 282     | 10.5                              | 3.0                                    | 95.0                 | 70.8                      | 40.1                 | 22.5                      |
| 12/21/78 | 21                              | 282     | 13.0                              | 8.5                                    | 117.5                | 74.1                      | 43.4                 | 28.5                      |
| 12/28/78 | 28                              | 282     | 8.3                               | 7.5                                    | 95.0                 | 62.0                      | 38.1                 | 23.5                      |
| 1/3/79   | 33                              | 282     | 14.5                              | 9.0                                    | 100.0                | 50.0                      | 41.7                 | 28.7                      |
| 1/3/79   | 33                              | 282-3   | 19.3                              | -----                                  | -----                | -----                     | 44.9                 | -----                     |

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TABLE B-11-3  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 4

| DATE     | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | PHOSPHORUS<br>ORTHO<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|----------|---------------------------------|---------|-----------------|-----------------|-----------------------------|-----------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|
| 11/30/78 | 0                               | 2S2     | 4.9             | <0.1            | .026                        | .30             | 5.4                         | 5.1                         | 0                             | 45                          |
| 12/7/78  | 7                               | 2S2     | 4.4             | <0.1            | .160                        | .28             | 5.3                         | 5.1                         | 0                             | 250                         |
| 12/14/78 | 14                              | 2S2     | 4.4             | <0.1            | .090                        | .17             | 3.9                         | 3.4                         | 0                             | 300                         |
| 12/21/78 | 21                              | 2S2     | 3.9             | <0.1            | .045                        | .45             | 4.8                         | 4.0                         | 0                             | 340                         |
| 12/28/78 | 28                              | 2S2     | 3.9             | <0.1            | .056                        | .28             | 4.1                         | 3.7                         | 0                             | 160                         |
| 1/2/79   | 33                              | 2S2     | 4.4             | 0.2             | .056                        | .44             | 3.4                         | 3.0                         | 0                             | 430                         |
| 1/2/79   | 33                              | 2S2-3   | 4.5             | ---             | ---                         | ---             | ---                         | ---                         | ---                           | 430                         |

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TABLE B-11-4  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 4

| DATE     | CUMULATIVE<br>ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|----------|-------------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
|          |                         |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 11/30/78 | 0                       | 2S2     | 9.4                              | 9.2  | 9.1  | 9.1  | 9.1  | 9.0  | 9.1                       | 9.1  | 9.2  | 9.5  | 9.5  | 9.0  |
| 12/7/78  | 7                       | 2S2     | 11.2                             | 10.8 | 10.4 | 9.6  | 9.2  | 8.6  | 16.2                      | 16.0 | 15.8 | 15.6 | 15.0 | 14.5 |
| 12/14/78 | 14                      | 2S2     | 14.0                             | 13.8 | 13.5 | 13.0 | 12.5 | 11.9 | 9.1                       | 9.1  | 9.0  | 9.0  | 8.9  | 8.9  |
| 12/21/78 | 21                      | 2S2     | 11.0                             | 11.0 | 10.8 | 10.6 | 10.4 | 10.0 | 12.0                      | 12.1 | 12.1 | 12.0 | 11.9 | 11.8 |
| 12/28/78 | 28                      | 2S2     | 7.0                              | 6.6  | 6.3  | 6.1  | 6.0  | 5.9  | 7.0                       | 7.0  | 7.0  | 7.0  | 7.0  | 7.0  |
| 1/2/79   | 33                      | 2S2     | 13.8                             | 13.7 | 13.4 | 13.0 | 12.8 | 12.5 | 7.0                       | 7.1  | 7.2  | 7.3  | 7.4  | 7.5  |

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TABLE B-12-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 5 |                           |         | Isolation Pond 2 |              |                 |          |          |                       |     |                                      |
|-------------------|---------------------------|---------|------------------|--------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m  | SECCHI DEPTH | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 1/18/79           | 0                         | 2S2     | 1.98             | .15          | .305            | 37       | 34       | 9.5                   | 8.0 | 216                                  |
| 1/25/79           | 7                         | 2S2     | 2.14             | .07          | .305            | 44       | 34       | 8.7                   | 7.5 | 186                                  |
| 2/1/79            | 14                        | 2S2     | 2.14             | .07          | .305            | 52       | 41       | 10.0                  | 7.6 | 182                                  |
| 2/8/79            | 21                        | 2S2     | 2.14             | .07          | .305            | 40       | 29       | 10.2                  | 7.8 | 166                                  |
| 2/15/79           | 28                        | 2S2     | 2.14             | .07          | .305            | 57       | 42       | 10.5                  | 8.3 | 162                                  |
| 2/22/79           | 35                        | 2S2     | 2.14             | .07          | .305            | 53       | 37       | 9.7                   | 1.8 | 162                                  |
| 2/22/79           | 35                        | 2S2-3   | ---              | ---          | .915            | 53       | ---      | ---                   | 7.8 | ---                                  |

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TABLE B-12-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 5

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 1/18/79 | 0                               | 2S2     | 12.0                              | 2.0                                    | 124.0                | 80.0                      | 42.6                 | 17.8                      |
| 1/25/79 | 7                               | 2S2     | 12.5                              | 2.0                                    | 104.0                | 57.0                      | 42.5                 | 19.9                      |
| 2/1/79  | 14                              | 2S2     | 11.0                              | 2.5                                    | 95.7                 | 42.9                      | 45.8                 | 25.9                      |
| 2/8/79  | 21                              | 2S2     | 14.0                              | 2.5                                    | 104.5                | 62.0                      | 36.0                 | 20.7                      |
| 2/15/79 | 28                              | 2S2     | 18.3                              | 4.0                                    | 92.0                 | 42.0                      | 46.4                 | 24.0                      |
| 2/22/79 | 35                              | 2S2     | 20.0                              | 9.5                                    | 91.7                 | 37.5                      | 42.0                 | 17.4                      |
| 2/22/79 | 35                              | 2S2-3   | 22.5                              | ---                                    | ---                  | ---                       | 45.9                 | ---                       |

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TABLE B-12-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 5 |                           |         |              | Isolation Pond 2 |              |              |            |            |                         |                       |
|-------------------|---------------------------|---------|--------------|------------------|--------------|--------------|------------|------------|-------------------------|-----------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | ORGANIC mg/L | NITROGEN         |              |              | PHOSPHORUS |            | FECAL COLIFORM #/100 mL | LIGHT INTENSITY ft-cd |
|                   |                           |         |              | AMMONIA mg/L     | NITRITE mg/L | NITRATE mg/L | TOTAL mg/L | ORTHO mg/L |                         |                       |
| 1/18/79           | 0                         | 2S2     | 4.6          | 1.3              | .130         | .67          | 3.3        | 2.6        | 280                     | 27                    |
| 1/25/79           | 7                         | 2S2     | 4.7          | 0.8              | .174         | .61          | 2.5        | 2.2        | 50                      | 110                   |
| 2/1/79            | 14                        | 2S2     | 5.3          | 0.3              | .200         | .61          | 4.5        | 3.7        | 30                      | 230                   |
| 2/8/79            | 21                        | 2S2     | 4.0          | 0.7              | .285         | .72          | 2.9        | 2.5        | 0                       | 450                   |
| 2/15/79           | 28                        | 2S2     | 4.7          | 0.1              | .460         | 1.56         | 2.2        | 1.1        | 10                      | 400                   |
| 2/22/79           | 35                        | 2S2     | 3.8          | 0.2              | .150         | 1.04         | 1.6        | 1.1        | 10                      | 300                   |
| 2/22/79           | 35                        | 2S2-3   | 3.8          | ---              | ---          | ---          | ---        | ---        | ---                     | ---                   |

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TABLE B-12-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 5 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 1/18/79           | 0                    | 2S2     | 9.5                              | 8.9  | 8.7  | 8.4  | 7.9  | 7.4  | 8.2                       | 8.0  | 7.6  | 7.0  | 6.6  | 6.3  |
| 1/25/79           | 7                    | 2S2     | 8.7                              | 8.2  | 7.4  | 7.0  | 7.0  | 7.0  | 4.7                       | 4.7  | 4.6  | 4.4  | 4.1  | 4.0  |
| 2/1/79            | 14                   | 2S2     | 10.0                             | 9.9  | 9.8  | 9.6  | 9.1  | 8.9  | 4.0                       | 4.0  | 3.9  | 3.9  | 3.9  | 3.5  |
| 2/8/79            | 21                   | 2S2     | 10.2                             | 10.2 | 10.2 | 10.0 | 10.0 | 10.0 | 6.4                       | 6.3  | 6.2  | 6.1  | 5.9  | 5.9  |
| 2/15/79           | 28                   | 2S2     | 10.5                             | 10.4 | 10.4 | 10.3 | 10.0 | 8.4  | 12.2                      | 12.1 | 12.1 | 12.0 | 11.0 | 10.2 |
| 2/22/79           | 35                   | 2S2     | 9.7                              | 9.5  | 9.3  | 8.9  | 8.8  | 7.1  | 13.1                      | 13.0 | 12.9 | 12.5 | 12.1 | 11.3 |

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TABLE B-13-1  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 6

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOTTOM<br>DEPTH, m | SECCHI<br>DEPTH | SAMPLE<br>DEPTH, m | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
|---------|---------------------------------|---------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| 3/12/79 | 0                               | 2S2     | 2.14               | .05             | .305               | 98          | 60          | >20                         | 9.8 | 150                                        |
| 3/19/79 | 7                               | 2S2     | 2.10               | .14             | .305               | 49          | 37          | 13.2                        | 8.9 | 142                                        |
| 3/26/79 | 14                              | 2S2     | 2.06               | .07             | .305               | 44          | 43          | 15.6                        | 9.0 | 156                                        |
| 4/3/79  | 22                              | 2S2     | 1.98               | .08             | .305               | 44          | 34          | 19.4                        | 8.7 | 146                                        |
| 4/9/79  | 28                              | 2S2     | 1.92               | .14             | .305               | 36          | 26          | 10.2                        | 8.9 | 152                                        |
| 4/17/79 | 36                              | 2S2     | 2.14               | .14             | .305               | 37          | 34          | >20                         | 9.8 | 156                                        |
| 4/17/79 | 36                              | 2S2-3   | ---                | ---             | .915               | 39          | ---         | ---                         | 9.7 | ---                                        |

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TABLE B-13-2  
ISOLATION POND IN SITU MONITORING

Isolation Pond 2

Isolation Cycle 6

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
|---------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| 3/12/79 | 0                               | 2S2     | 28.5                              | 5.5                                    | 128                  | 52                        | 59                   | 32.0                      |
| 3/19/79 | 7                               | 2S2     | 19.5                              | 5.0                                    | 101                  | 46                        | 38.8                 | 27.9                      |
| 3/26/79 | 14                              | 2S2     | 16.0                              | 4.5                                    | 85                   | 37                        | 57.3                 | 32.0                      |
| 4/3/79  | 22                              | 2S2     | 11.5                              | 4.5                                    | 85                   | 43                        | 17.7                 | 14.5                      |
| 4/9/79  | 28                              | 2S2     | 10.0                              | 3.0                                    | 60                   | 24                        | 30.3                 | 16.4                      |
| 4/17/79 | 36                              | 2S2     | 8.5                               | 3.0                                    | 82                   | 27                        | 30.5                 | 15.0                      |
| 4/17/79 | 36                              | 2S2-3   | 9.0                               | ---                                    | ---                  | ---                       | 33.2                 | ---                       |

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TABLE B-13-3  
ISOLATION POND IN SITU MONITORING

Isolation Cycle 6

Isolation Pond 2

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | NITROGEN        |                 |                 | NITRATE<br>mg/L | PHOSPHORUS    |               | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------|-----------------|---------------|---------------|-------------------------------|-----------------------------|
|         |                                 |         | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITRITE<br>mg/L |                 | TOTAL<br>mg/L | ORTHO<br>mg/L |                               |                             |
| 3/12/79 | 0                               | 2S2     | 8.5             | <0.1            | .041            | .58             | 2.5           | 1.4           | 20                            | 300                         |
| 3/19/79 | 7                               | 2S2     | 4.4             | <0.1            | .072            | .30             | 2.3           | 1.3           | 0                             | 530                         |
| 3/26/79 | 14                              | 2S2     | 4.4             | <0.1            | .033            | .26             | 2.4           | 1.4           | 0                             | 70                          |
| 4/3/79  | 22                              | 2S2     | 3.9             | <0.1            | .024            | .29             | 2.3           | 0.8           | 0                             | 130                         |
| 4/9/79  | 28                              | 2S2     | 3.6             | <0.1            | .013            | .25             | 2.4           | 0.8           | 0                             | 920                         |
| 4/17/79 | 36                              | 2S2     | 3.6             | <0.1            | .010            | .14             | 3.1           | 2.2           | 0                             | 310                         |
| 4/17/79 | 36                              | 2S2-3   | 3.7             | ---             | ---             | ---             | ---           | ---           | ---                           | ---                         |

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TABLE B-13-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                      |         | 5                                |      | Isolation Pond 2 |      |      |      |                           |      |      |      |      |      |  |  |
|-----------------|----------------------|---------|----------------------------------|------|------------------|------|------|------|---------------------------|------|------|------|------|------|--|--|
| DATE            | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |                  |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |  |  |
|                 |                      |         | 1 Ft                             | 2 Ft | 3 Ft             | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |  |  |
| 3/12/79         | 0                    | 252     | >20.0                            | 17.0 | 14.2             | 13.0 | 11.7 | 11.0 | 17.0                      | 16.0 | 14.7 | 13.3 | 13.2 | 13.0 |  |  |
| 3/19/79         | 7                    | 252     | 13.2                             | 12.6 | 10.1             | 8.0  | 5.7  | 5.2  | 19.0                      | 18.4 | 17.1 | 16.2 | 15.3 | 14.8 |  |  |
| 3/26/79         | 14                   | 252     | 15.6                             | 14.8 | 9.9              | 8.5  | 8.0  | 7.8  | 19.7                      | 19.1 | 17.1 | 17.0 | 17.0 | 17.0 |  |  |
| 4/3/79          | 22                   | 252     | 19.4                             | 18.5 | 17.5             | 15.3 | 13.4 | 12.1 | 13.2                      | 13.1 | 13.1 | 12.5 | 11.1 | 10.1 |  |  |
| 4/9/79          | 28                   | 252     | 10.2                             | 9.2  | 8.1              | 6.8  | 5.8  | 5.4  | 20.0                      | 19.3 | 19.0 | 18.7 | 18.5 | 18.2 |  |  |
| 4/17/79         | 36                   | 252     | >20.0                            | 17.9 | 11.6             | 4.4  | 1.4  | 1.2  | 26.5                      | 22.9 | 21.2 | 20.2 | 19.9 | 20.0 |  |  |

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TABLE B-14-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 7 |                                 | Isolation Pond 2 |                    |                 |                    |             |             |                             |     |                                            |
|-------------------|---------------------------------|------------------|--------------------|-----------------|--------------------|-------------|-------------|-----------------------------|-----|--------------------------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION          | BOTTOM<br>DEPTH, " | SECOND<br>DEPTH | SAMPLE<br>DEPTH, " | TSS<br>mg/L | VSS<br>mg/L | DISSOLVED<br>OXYGEN<br>mg/L | pH  | ALKALINITY<br>as CaCO <sub>3</sub><br>mg/L |
| 5/7/79            | 0                               | 252              | 2.19               | .17             | .305               | 71          | 38          | 15.6                        | 9.0 | 146                                        |
| 5/15/79           | 8                               | 252              | 2.07               | .18             | .305               | 24          | 24          | 14.1                        | 9.2 | 166                                        |
| 5/21/79           | 14                              | 252              | 1.98               | .23             | .305               | 12          | 10          | 9.4                         | 9.2 | 170                                        |
| 5/29/79           | 22                              | 252              | 2.06               | .07             | .305               | 32          | 32          | 17.5                        | 9.3 | 166                                        |
| 5/29/79           | 22                              | 252-3            | -----              | ----            | .915               | 26          | --          | ----                        | 8.8 | ----                                       |

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TABLE B-14-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 7 |                                 |         | Isolation Pond 2                  |                                        |                      |                           |                      |                           |
|-------------------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |
| 5/7/79            | 0                               | 252     | 10.5                              | 4.0                                    | 67                   | 29                        | 39.0                 | 25.0                      |
| 5/15/79           | 8                               | 252     | 10.0                              | 1.5                                    | 56                   | 44                        | 19.4                 | 13.1                      |
| 5/21/79           | 14                              | 252     | 5.5                               | 2.5                                    | 91                   | 48                        | 19.9                 | 16.7                      |
| 5/29/79           | 22                              | 252     | 10.0                              | 4.5                                    | 104                  | 72                        | 45.7                 | 25.3                      |
| 5/29/79           | 22                              | 252-3   | 14.0                              | ---                                    | ---                  | ---                       | 58.1                 | ---                       |

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TABLE B-14-3  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle |                                 |         | Isolation Pond  |                 |                 |                 |               |                        |                               |                             |
|-----------------|---------------------------------|---------|-----------------|-----------------|-----------------|-----------------|---------------|------------------------|-------------------------------|-----------------------------|
| 7               |                                 |         | 2               |                 |                 |                 |               |                        |                               |                             |
| DATE            | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | NITROGEN        |                 | NITRATE<br>mg/L | PHOSPHORUS    |                        | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|                 |                                 |         |                 | AMMONIA<br>mg/L | NITRITE<br>mg/L |                 | TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L |                               |                             |
| 5/7/79          | 0                               | 252     | 3.6             | <0.1            | .030            | .08             | 2.9           | 2.7                    | 10                            | 650                         |
| 5/15/79         | 8                               | 252     | 2.4             | <0.1            | .030            | .03             | 2.7           | 2.2                    | 0                             | 460                         |
| 5/21/79         | 14                              | 252     | 1.8             | <0.1            | .013            | .06             | 2.5           | 2.3                    | 0                             | 320                         |
| 5/29/79         | 22                              | 252     | 5.1             | <0.1            | .013            | .20             | 2.6           | 2.3                    | 0                             | 150                         |
| 5/29/79         | 22                              | 252-3   | 2.8             | -----           | -----           | -----           | -----         | -----                  | -----                         | -----                       |

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TABLE B-14-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 2 |                      |         | Isolation Pond 2                 |      |      |      |      |      |                           |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|---------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      | TEMPERATURE PROFILE<br>°C |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft | 1 Ft                      | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 5/7/79            | 0                    | 282     | 15.6                             | 15.8 | 12.2 | 6.2  | 1.9  | 0.7  | 28.0                      | 26.8 | 22.8 | 21.4 | 21.0 | 20.8 |
| 5/15/79           | 8                    | 282     | 14.1                             | 14.1 | 13.6 | 12.4 | 8.4  | 6.3  | 26.7                      | 25.1 | 23.4 | 22.9 | 22.0 | 13.5 |
| 5/21/79           | 14                   | 282     | 9.4                              | 9.6  | 9.6  | 9.2  | 7.5  | 0.8  | 29.0                      | 28.0 | 28.0 | 27.0 | 26.0 | 24.0 |
| 5/29/79           | 22                   | 282     | 17.5                             | 14.8 | 12.2 | 8.3  | 1.5  | 0.9  | 26.0                      | 26.0 | 25.0 | 24.0 | 23.5 | 23.0 |

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TABLE B-15-1  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 8 |                           |         |                 | Isolation Pond 1 |                 |          |          |                       |     |                                      |
|-------------------|---------------------------|---------|-----------------|------------------|-----------------|----------|----------|-----------------------|-----|--------------------------------------|
| DATE              | CUMULATIVE ISOLATION DAYS | STATION | BOTTOM DEPTH, m | SECCHI DEPTH     | SAMPLE DEPTH, m | TSS mg/L | VSS mg/L | DISSOLVED OXYGEN mg/L | pH  | ALKALINITY as CaCO <sub>3</sub> mg/L |
| 5/15/79           | 0                         | 1S2     | 1.98            | .15              | .305            | 56       | 42       | <20.0                 | 9.7 | 166                                  |
| 5/21/79           | 6                         | 1S2     | 1.91            | .12              | .305            | 38       | 23       | 10.0                  | 9.2 | 166                                  |
| 5/29/79           | 14                        | 1S2     | 1.91            | .12              | .305            | 30       | 23       | 11.2                  | 8.5 | 172                                  |
| 6/4/79            | 20                        | 1S2     | 1.91            | .12              | .305            | 37       | 28       | 14.0                  | 9.0 | 170                                  |
| 6/4/79            | 20                        | 1S2-3   | ----            | ----             | .915            | 36       | --       | ----                  | 8.6 | ----                                 |

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TABLE B-15-2  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 8 |                                 |         |                                   |                                        | Isolation Pond 1     |                           |                      |                           |  |
|-------------------|---------------------------------|---------|-----------------------------------|----------------------------------------|----------------------|---------------------------|----------------------|---------------------------|--|
| DATE              | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | BOD <sub>5</sub><br>TOTAL<br>mg/L | BOD <sub>5</sub><br>FILTERABLE<br>mg/L | COD<br>TOTAL<br>mg/L | COD<br>FILTERABLE<br>mg/L | TOC<br>TOTAL<br>mg/L | TOC<br>FILTERABLE<br>mg/L |  |
| 5/15/79           | 0                               | 1S2     | 12.5                              | 2.5                                    | 92                   | 48                        | 33.6                 | 24.6                      |  |
| 5/21/79           | 6                               | 1S2     | 9.5                               | 4.0                                    | 65                   | 43                        | 19.8                 | 12.3                      |  |
| 5/29/79           | 14                              | 1S2     | 6.5                               | 4.0                                    | 70                   | 52                        | 35.7                 | 18.2                      |  |
| 6/4/79            | 20                              | 1S2     | 6.5                               | 1.0                                    | 100                  | 54                        | 24.5                 | 15.4                      |  |
| 6/4/79            | 20                              | 1S2-3   | 7.0                               | ---                                    | ---                  | ---                       | 30.9                 | ---                       |  |

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TABLE B-15-3  
ISOLATION POND IN SITU MONITORING

Isolation Pond 1

Isolation Cycle 8

| DATE    | CUMULATIVE<br>ISOLATION<br>DAYS | STATION | ORGANIC<br>mg/L | AMMONIA<br>mg/L | NITROGEN<br>NITRITE<br>mg/L | NITRATE<br>mg/L | PHOSPHORUS<br>TOTAL<br>mg/L | ORTHOPHOSPHATE<br>mg/L | FECAL<br>COLIFORM<br>#/100 mL | LIGHT<br>INTENSITY<br>ft-cd |
|---------|---------------------------------|---------|-----------------|-----------------|-----------------------------|-----------------|-----------------------------|------------------------|-------------------------------|-----------------------------|
| 5/15/79 | 0                               | IS2     | 3.7             | <0.1            | .042                        | .11             | 2.9                         | 2.1                    | 0                             | 460                         |
| 5/21/79 | 6                               | IS2     | 2.4             | <0.1            | .006                        | .14             | 2.7                         | 2.5                    | 0                             | 300                         |
| 5/29/79 | 14                              | IS2     | 2.7             | 0.3             | .036                        | .30             | 2.7                         | 2.5                    | 0                             | 150                         |
| 6/4/79  | 20                              | IS2     | 2.8             | <0.1            | .030                        | .20             | 2.8                         | 2.5                    | 0                             | 380                         |
| 6/4/79  | 20                              | IS2-3   | 3.7             | ---             | ---                         | ---             | ---                         | ---                    | ---                           | ---                         |

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TABLE B-15-4  
ISOLATION POND IN SITU MONITORING

| Isolation Cycle 8 |                      |         | Isolation Pond 1                 |      |      |      |      |      |
|-------------------|----------------------|---------|----------------------------------|------|------|------|------|------|
| DATE              | CUMULATIVE ISOLATION | STATION | DISSOLVED OXYGEN PROFILE<br>mg/l |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 5/15/79           | 0                    | IS2     | <20.0                            | 17.5 | 10.0 | 5.1  | 5.1  | 4.5  |
| 5/21/79           | 6                    | IS2     | 10.0                             | 9.4  | 6.8  | 4.2  | 0.7  | 0.2  |
| 5/29/79           | 14                   | IS2     | 11.2                             | 10.2 | 9.4  | 5.5  | 0.8  | 0.5  |
| 6/4/79            | 20                   | IS2     | 14.0                             | 13.8 | 10.6 | 5.5  | 1.2  | 0.7  |
|                   |                      |         | TEMPERATURE PROFILE<br>°C        |      |      |      |      |      |
|                   |                      |         | 1 Ft                             | 2 Ft | 3 Ft | 4 Ft | 5 Ft | 6 Ft |
| 5/15/79           | 0                    | IS2     | 27.9                             | 26.0 | 23.1 | 22.8 | 22.9 | 22.8 |
| 5/21/79           | 6                    | IS2     | 27.0                             | 28.0 | 27.0 | 26.0 | 25.0 | 23.0 |
| 5/29/79           | 14                   | IS2     | 26.0                             | 26.0 | 25.0 | 24.5 | 23.5 | 23.0 |
| 6/4/79            | 20                   | IS2     | 27.0                             | 27.0 | 25.5 | 25.0 | 24.0 | 23.0 |

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